

# Specifications

## Eaton 211789

Eaton Moeller series xEffect - AZ MCB.  
Miniature circuit breaker (MCB) AZ, 1 pole,  
Tripping characteristic: C, Rated current In:  
50 A

### General specifications

|                                 |                                          |
|---------------------------------|------------------------------------------|
| <b>PRODUCT NAME</b>             | Eaton Moeller series<br>xEffect - AZ MCB |
| <b>CATALOG NUMBER</b>           | 211789                                   |
| <b>MODEL CODE</b>               | AZ-C50                                   |
| <b>EAN</b>                      | 4015082117894                            |
| <b>PRODUCT<br/>LENGTH/DEPTH</b> | 90 mm                                    |
| <b>PRODUCT HEIGHT</b>           | 75 mm                                    |
| <b>PRODUCT WIDTH</b>            | 27 mm                                    |
| <b>PRODUCT WEIGHT</b>           | 0.222 kg                                 |
| <b>COMPLIANCES</b>              | RoHS conform                             |
| <b>CERTIFICATIONS</b>           | IEC/EN 60947-2<br>EN45545-2<br>IEC 61373 |

## Additional information

### 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

Miniature circuit breaker AZ

## 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

### NUMBER OF POLES (PROTECTED)

1

### NUMBER OF POLES (TOTAL)

1

### RELEASE CHARACTERISTIC

C

### TRIPPING CHARACTERISTIC

C

### TYPE

- AZ
- 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>                           | 55 °C  |
| <b>AMBIENT OPERATING TEMPERATURE - MIN</b>                           | -25 °C |
| <b>EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT</b>                 | 5.1 W  |
| <b>HEAT DISSIPATION CAPACITY</b>                                     | 0 W    |
| <b>HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT</b>                  | 5.1 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>ADMISSIBLE BACK-UP FUSE - MAX</b>                                     | 200 A gL/gG         |
| <b>DIRECTION OF INCOMING SUPPLY</b>                                      | As required         |
| <b>FREQUENCY RATING - MAX</b>                                            | 60 Hz               |
| <b>FREQUENCY RATING - MIN</b>                                            | 50 Hz               |
| <b>LIFESPAN, ELECTRICAL</b>                                              | 10000 operations    |
| <b>OPERATIONAL SWITCHING CAPACITY</b>                                    | 20 kA               |
| <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> | 25 kA               |
| <b>RATED SHORT-CIRCUIT BREAKING CAPACITY (IEC 60947-2)- ICU AT 400 V</b> | 25 kA               |
| <b>RATED SWITCHING CAPACITY (IEC/EN 60947-2)</b>                         | 25 kA               |
| <b>SELECTIVITY CLASS</b>                                                 | 3                   |
| <b>VOLTAGE RATING</b>                                                    | 230 V AC / 400 V AC |
| <b>VOLTAGE RATING AT DC</b>                                              | 60 V DC (per pole)  |
| <b>VOLTAGE TYPE</b>                                                      | AC                  |

## Technical data - mechanical

|                                                                |                                                |
|----------------------------------------------------------------|------------------------------------------------|
| <b>BUILT-IN DEPTH</b>                                          | 75 mm                                          |
| <b>CONNECTABLE CONDUCTOR CROSS SECTION (MULTI-WIRED) - MAX</b> | 50 mm <sup>2</sup>                             |
| <b>CONNECTABLE CONDUCTOR CROSS SECTION (MULTI-WIRED) - MIN</b> | 2.5 mm <sup>2</sup>                            |
| <b>CONNECTABLE CONDUCTOR CROSS SECTION (SOLID-CORE) - MAX</b>  | 50 mm <sup>2</sup>                             |
| <b>CONNECTABLE CONDUCTOR CROSS SECTION (SOLID-CORE) - MIN</b>  | 2.5 mm <sup>2</sup>                            |
| <b>DEGREE OF PROTECTION</b>                                    | IP40 (when fitted)<br>IP20                     |
| <b>ENCLOSURE WIDTH</b>                                         | 90 mm                                          |
| <b>FRAME</b>                                                   | 45 mm                                          |
| <b>MOUNTING METHOD</b>                                         | Top-hat rail IEC/EN 60715                      |
| <b>MOUNTING WIDTH</b>                                          | 27 mm                                          |
| <b>MOUNTING WIDTH PER POLE</b>                                 | 27 mm                                          |
| <b>TERMINAL CAPACITY (CONTROL CABLE)</b>                       | 2.5 mm <sup>2</sup> - 50 mm <sup>2</sup>       |
| <b>TERMINAL PROTECTION</b>                                     | Finger and hand touch safe, DGUV VS3, EN 50274 |
| <b>TERMINALS (TOP AND BOTTOM)</b>                              | Lift terminals                                 |
| <b>WIDTH IN NUMBER OF MODULAR SPACINGS</b>                     | 1.5                                            |

## Resources

|                            |                                                                                                         |
|----------------------------|---------------------------------------------------------------------------------------------------------|
| APPLICATION NOTES          | <a href="#">eaton-maximum-cable-lengths-for-eatons-protective-devices-brochure-br034006en-en-us.pdf</a> |
|                            | <a href="#">eaton-quality-standards-for-railway-applications-application-paper-ap003005en-en-us.pdf</a> |
| BROCHURES                  | <a href="#">eaton-pdd-railrolling-stock-brochure-br011002en-en-us.pdf</a>                               |
| CHARACTERISTIC CURVE       | <a href="#">eaton-mcb-current-xeffect-az-characteristic-curve.eps</a>                                   |
|                            | <a href="#">eaton-mcb-tripping-characteristic-xeffect-az-characteristic-curve.eps</a>                   |
|                            | <a href="#">eaton-mcb-xeffect-az-characteristic-curve-002.eps</a>                                       |
|                            | <a href="#">eaton-mcb-current-xeffect-az-characteristic-curve-002.eps</a>                               |
|                            | <a href="#">eaton-xeffect-az-mcb-characteristic-curve-002.jpg</a>                                       |
| DECLARATIONS OF CONFORMITY | <a href="#">eaton-xeffect-az-mcb-characteristic-curve-004.jpg</a>                                       |
|                            | <a href="#">eaton-mcb-xeffect-az-characteristic-curve.eps</a>                                           |
| DRAWINGS                   | <a href="#">eaton-mcb-declaration-of-conformity-eu250431en.pdf</a>                                      |
|                            | <a href="#">eaton-az-mcb-dimensions.jpg</a>                                                             |
|                            | <a href="#">eaton-mcb-xeffect-az-dimensions.eps</a>                                                     |
|                            | <a href="#">eaton-xeffect-az-mcb-3d-drawing-002.jpg</a>                                                 |
|                            | <a href="#">eaton-mcb-faz-xeffect-faz-3d-drawing.eps</a>                                                |
| ECAD MODEL                 | <a href="#">eaton-xeffect-az-mcb-3d-drawing.jpg</a>                                                     |
| INSTALLATION               | <a href="#">DA-CE-ETN.AZ-C50</a>                                                                        |
|                            | <a href="#">IL019148ZU</a>                                                                              |

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## INSTRUCTIONS

|            |                                                                                 |
|------------|---------------------------------------------------------------------------------|
| MCAD MODEL | <a href="#">DA-CS-az 1p</a>                                                     |
|            | <a href="#">eaton-non-selective-mcb-mcad-drawings-az-1p.dwg</a>                 |
|            | <a href="#">eaton-non-selective-universal-mcb-mcad-3d-models-az-plht-1p.stp</a> |

|                  |                                                                               |
|------------------|-------------------------------------------------------------------------------|
| PEP ECO-PASSPORT | <a href="#">eaton-non-selective-universal-mcb-pep-eato-00259-v0101-en.pdf</a> |
|------------------|-------------------------------------------------------------------------------|

|                 |                                                                 |
|-----------------|-----------------------------------------------------------------|
| WIRING DIAGRAMS | <a href="#">eaton-xpole-mmc4-6-m-mcb-wiring-diagram-002.jpg</a> |
|                 | <a href="#">eaton-mcb-xeffect-faz-wiring-diagram.eps</a>        |

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**PROJECT NAME:**

**PROJECT NUMBER:**

**PREPARED BY:**

**DATE:**

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

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