

Specifications



Eaton 278928

Eaton Moeller series xEffect - FAZ MCB.
Miniature circuit breaker (MCB), 20 A, 3p,
characteristic: Z

General specifications

PRODUCT NAME	Eaton Moeller series xEffect - FAZ MCB
CATALOG NUMBER	278928
MODEL CODE	FAZ-Z20/3
EAN	4015082789282
PRODUCT LENGTH/DEPTH	80 mm
PRODUCT HEIGHT	75.5 mm
PRODUCT WIDTH	54 mm
PRODUCT WEIGHT	0.334 kg
COMPLIANCES	UL CSA09 (with supplementary protector only) RoHS conform
CERTIFICATIONS	CSA (Class No. 3215-30) UL (Category Control Number QVNU2, QVNU8) CE marking IEC/EN 60898 CSA (File No. 204453) UL (File No. E177451) North America (UL recognized, CSA certified) CSA-C22.2 No. 235 UL 1077 IEC/EN 60947-2 EN45545-2 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 FAZ

Delivery programme

AMPERAGE RATING

20 A

APPLICATION

- Branch circuits, not as BCPD
- Switchgear for industrial and advanced commercial applications
- xEffect - Switchgear for industrial and advanced commercial applications

NUMBER OF POLES

Three-pole

NUMBER OF POLES (PROTECTED)

1

NUMBER OF POLES (TOTAL)

1

RELEASE CHARACTERISTIC

B
Z

TRIPPING CHARACTERISTIC

Z

TYPE

- FAZ
- Miniature circuit breaker

Design verification to IEC/EN 61439

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.
10.2.2 CORROSION RESISTANCE	Meets the product standard's requirements.
10.2.3.1 VERIFICATION OF THERMAL STABILITY OF ENCLOSURES	Meets the product standard's requirements.
10.2.3.2 VERIFICATION OF RESISTANCE OF INSULATING MATERIALS TO NORMAL HEAT	Meets the product standard's requirements.
10.2.3.3 RESIST. OF INSUL. MAT. TO ABNORMAL HEAT/FIRE BY INTERNAL ELECT. EFFECTS	Meets the product standard's requirements.
10.2.4 RESISTANCE TO ULTRA-VIOLET (UV) RADIATION	Meets the product standard's requirements.
10.2.5 LIFTING	Does not apply, since the entire switchgear needs to be evaluated.
10.2.6 MECHANICAL IMPACT	Does not apply, since the entire switchgear needs to be evaluated.
10.2.7 INSCRIPTIONS	Meets the product standard's requirements.
10.3 DEGREE OF PROTECTION OF ASSEMBLIES	Does not apply, since the entire switchgear needs to be evaluated.
10.4 CLEARANCES AND CREEPAGE DISTANCES	Meets the product standard's requirements.
10.5 PROTECTION	Does not apply, since the

Design verification to IEC/EN 61439 - technical data

AMBIENT OPERATING TEMPERATURE - MAX	75 °C
AMBIENT OPERATING TEMPERATURE - MIN	-25 °C
EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT	13.1 W
HEAT DISSIPATION CAPACITY	0 W
HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT	0 W
RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	20 A
STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT	0 W

AGAINST ELECTRIC SHOCK	entire switchgear needs to be evaluated.
10.6 INCORPORATION OF SWITCHING DEVICES AND COMPONENTS	Does not apply, since the entire switchgear needs to be evaluated.
10.7 INTERNAL ELECTRICAL CIRCUITS AND CONNECTIONS	Is the panel builder's responsibility.
10.8 CONNECTIONS FOR EXTERNAL CONDUCTORS	Is the panel builder's responsibility.
10.9.2 POWER-FREQUENCY ELECTRIC STRENGTH	Is the panel builder's responsibility.
10.9.3 IMPULSE WITHSTAND VOLTAGE	Is the panel builder's responsibility.
10.9.4 TESTING OF ENCLOSURES MADE OF INSULATING MATERIAL	Is the panel builder's responsibility.

Technical data - electrical

ADMISSIBLE BACK-UP FUSE - MAX	125 A gL/gG
DIRECTION OF INCOMING SUPPLY	As required
FREQUENCY RATING - MAX	60 Hz
FREQUENCY RATING - MIN	50 Hz
LIFESPAN, ELECTRICAL	10000 operations
OPERATIONAL SWITCHING CAPACITY	7.5 kA
OVERVOLTAGE CATEGORY	III
POLLUTION DEGREE	2
RATED IMPULSE WITHSTAND VOLTAGE (UIMP)	4 kV
RATED INSULATION VOLTAGE (UI)	440 V
RATED OPERATIONAL VOLTAGE (UE) - MAX	230 V
RATED SHORT-CIRCUIT BREAKING CAPACITY (IEC 60947-2)- ICU AT 230 V	20 kA
RATED SHORT-CIRCUIT BREAKING CAPACITY (IEC 60947-2)- ICU AT 400 V	20 kA
RATED SWITCHING CAPACITY (IEC/EN 60947-2)	10 kA
SELECTIVITY CLASS	3
VOLTAGE RATING	240 V AC / 415 V AC
VOLTAGE RATING (UL CSA 13)	480 Y/277 V AC
VOLTAGE RATING AT DC	60 V DC (per pole)
VOLTAGE TYPE	AC

Technical data - mechanical

BUILT-IN DEPTH	70.5 mm
BUSBAR MATERIAL THICKNESS	0.8 mm - 2 mm
CONNECTABLE CONDUCTOR CROSS SECTION (MULTI-WIRED) - MAX	25 mm ²
CONNECTABLE CONDUCTOR CROSS SECTION (MULTI-WIRED) - MIN	1 mm ²
CONNECTABLE CONDUCTOR CROSS SECTION (SOLID-CORE) - MAX	25 mm ²
CONNECTABLE CONDUCTOR CROSS SECTION (SOLID-CORE) - MIN	1 mm ²
DEGREE OF PROTECTION	IP20 IP40 (when fitted) UL/CSA Type: - IP20 (IEC)
ENCLOSURE WIDTH	80 mm
FRAME	45 mm
MOUNTING METHOD	Top-hat rail IEC/EN 60715
MOUNTING POSITION	As required
MOUNTING WIDTH	17.5 mm
MOUNTING WIDTH PER POLE	17.5 mm
TERMINAL CAPACITY (CONTROL CABLE)	25 mm ² (1x)
TERMINAL CAPACITY OF SCREW TERMINALS FOR MAIN CABLE	10 mm ² (2x)
TERMINAL PROTECTION	Finger and hand touch safe, DGUV VS3, EN 50274
TERMINALS (TOP AND BOTTOM)	Twin-purpose terminals
WIDTH IN NUMBER OF MODULAR SPACINGS	1.5

Resources

CATALOGUES

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

CHARACTERISTIC CURVE

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

[eaton-mcb-characteristic-xeffect-faz-characteristic-curve-007.eps](#)

[eaton-mcb-characteristic-xeffect-faz-characteristic-curve-004.eps](#)

[eaton-xeffect-faz-mcb-characteristic-curve-005.jpg](#)

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

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

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

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

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

[eaton-xeffect-faz-mcb-characteristic-curve-006.jpg](#)

DECLARATIONS OF CONFORMITY

[eaton-mcb-declaration-of-conformity-eu251404en.pdf](#)

[eaton-mcb-declaration-of-conformity-uk251434en.pdf](#)

DRAWINGS

[eaton-xeffect-faz-mcb-dimensions-003.jpg](#)

[eaton-mcb-xeffect-faz-dimensions-003.eps](#)

[eaton-mcb-faz-xeffect-faz-3d-drawing-003.eps](#)

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

ECAD MODEL	DA-CE-ETN.FAZ-Z20_3
INSTALLATION INSTRUCTIONS	eaton-mcb-rccb-rcbo-g9-il019140zu.pdf
MCAD MODEL	eaton-non-selective-universal-mcb-mcad-3d-models-faz-xxx-3p.stp faz_3p.stp
PEP ECO-PASSPORT	eaton-non-selective-universal-mcb-pep-eato-00047-v0101-en.pdf
WIRING DIAGRAMS	eaton-mcb-xeffect-faz-wiring-diagram-003.eps eaton-xpole-mmc4-6-m-mcb-wiring-diagram-005.jpg

PROJECT NAME:

PROJECT NUMBER:

PREPARED BY:

DATE:



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