

Specifications



Photo is representative



Eaton 211770

Eaton Moeller series xEffect - AZ MCB.
Miniature circuit breaker (MCB), 20A, 2p, C-Char

General specifications

PRODUCT NAME	Eaton Moeller series xEffect - AZ MCB
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CATALOG NUMBER	211770
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MODEL CODE	AZ-2-C20
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EAN	4015082117702
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PRODUCT LENGTH/DEPTH	90 mm
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PRODUCT HEIGHT	75 mm
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PRODUCT WIDTH	54 mm
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PRODUCT WEIGHT	0.454 kg
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COMPLIANCES	RoHS conform
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CERTIFICATIONS	IEC/EN 60947-2 EN45545-2 IEC 61373
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Powering Business Worldwide

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

AZ
Miniature circuit breaker

Delivery programme

AMPERAGE RATING

20 A

APPLICATION

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

NUMBER OF POLES

Two-pole

NUMBER OF POLES (PROTECTED)

2

NUMBER OF POLES (TOTAL)

2

RELEASE CHARACTERISTIC

C

TRIPPING CHARACTERISTIC

C

TYPE

- AZ
- 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	55 °C
AMBIENT OPERATING TEMPERATURE - MIN	-25 °C
EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT	5.42 W 5.4 W
HEAT DISSIPATION CAPACITY	0 W
HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT	2.7 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	200 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	20 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	400 V
RATED SHORT-CIRCUIT BREAKING CAPACITY (IEC 60947-2)- ICU AT 230 V	25 kA
RATED SHORT-CIRCUIT BREAKING CAPACITY (IEC 60947-2)- ICU AT 400 V	25 kA
RATED SWITCHING CAPACITY (IEC/EN 60947-2)	25 kA
SELECTIVITY CLASS	3
VOLTAGE RATING	230 V AC / 400 V AC
VOLTAGE RATING AT DC	60 V DC (per pole)
VOLTAGE TYPE	AC

Technical data - mechanical

BUILT-IN DEPTH	75 mm
CONNECTABLE CONDUCTOR CROSS SECTION (MULTI-WIRED) - MAX	50 mm ²
CONNECTABLE CONDUCTOR CROSS SECTION (MULTI-WIRED) - MIN	2.5 mm ²
CONNECTABLE CONDUCTOR CROSS SECTION (SOLID-CORE) - MAX	50 mm ²
CONNECTABLE CONDUCTOR CROSS SECTION (SOLID-CORE) - MIN	2.5 mm ²
DEGREE OF PROTECTION	IP20 IP40 (when fitted)
ENCLOSURE WIDTH	90 mm
FRAME	45 mm
MOUNTING METHOD	Top-hat rail IEC/EN 60715
MOUNTING WIDTH	27 mm
MOUNTING WIDTH PER POLE	27 mm
TERMINAL CAPACITY (CONTROL CABLE)	2.5 mm ² - 50 mm ²
TERMINAL PROTECTION	Finger and hand touch safe, DGUV VS3, EN 50274
TERMINALS (TOP AND BOTTOM)	Lift terminals
WIDTH IN NUMBER OF MODULAR SPACINGS	3

Resources

APPLICATION NOTES	eaton-maximum-cable-lengths-for-eatons-protective-devices-brochure-br034006en-en-us.pdf
	eaton-quality-standards-for-railway-applications-application-paper-ap003005en-en-us.pdf
BROCHURES	eaton-pdd-railrolling-stock-brochure-br011002en-en-us.pdf
CHARACTERISTIC CURVE	eaton-xeffect-az-mcb-characteristic-curve-004.jpg
	eaton-mcb-xeffect-az-characteristic-curve.eps
	eaton-xeffect-az-mcb-characteristic-curve-002.jpg
	eaton-mcb-current-xeffect-az-characteristic-curve.eps
	eaton-mcb-xeffect-az-characteristic-curve-002.eps
	eaton-mcb-tripping-characteristic-xeffect-az-characteristic-curve.eps
DECLARATIONS OF CONFORMITY	eaton-mcb-current-xeffect-az-characteristic-curve-002.eps
	eaton-mcb-declaration-of-conformity-eu250431en.pdf
DRAWINGS	eaton-mcb-xeffect-az-dimensions-003.eps
	eaton-az-mcb-dimensions.jpg
	eaton-mcb-faz-xeffect-faz-3d-drawing-002.eps
	eaton-xeffect-az-mcb-3d-drawing-002.jpg
	eaton-xeffect-az-mcb-3d-drawing.jpg
ECAD MODEL	DA-CE-ETN.AZ-2-C20
INSTALLATION	IL019148ZU

INSTRUCTIONS

MCAD MODEL

[eaton-non-selective-universal-mcb-mcad-3d-models-az-2p.stp](#)

[DA-CS-az_1pn_2p](#)

[eaton-non-selective-mcb-mcad-drawings-az-1pn-2p.dwg](#)

PEP ECO-PASSPORT

[eaton-non-selective-universal-mcb-pep-eato-00259-v0101-en.pdf](#)

WIRING DIAGRAMS

[eaton-mcb-xeffect-faz-wiring-diagram-002.eps](#)

[eaton-xpole-mmc4-6-m-mcb-wiring-diagram-003.jpg](#)

PROJECT NAME:

PROJECT NUMBER:

PREPARED BY:

DATE:



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