

# Specifications

Photo is representative

## Eaton 211770

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

### General specifications

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



Powering Business Worldwide

## Product specifications

<b>USED WITH</b>	AZ Miniature circuit breaker
<b>AMPERAGE RATING</b>	20 A
<b>VOLTAGE RATING</b>	230 V AC / 400 V AC
<b>FEATURES</b>	Additional equipment possible
<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

## Resources

<b>APPLICATION NOTES</b>	<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>
<b>BROCHURES</b>	<a href="#">eaton-pdd-railrolling-stock-brochure-br011002en-en-us.pdf</a>  <a href="#">eaton-mcb-tripping-characteristic-xeffect-az-characteristic-curve.eps</a>  <a href="#">eaton-xeffect-az-mcb-characteristic-curve-002.jpg</a>  <a href="#">eaton-mcb-xeffect-az-characteristic-curve-002.eps</a>
<b>CHARACTERISTIC CURVE</b>	<a href="#">eaton-xeffect-az-mcb-characteristic-curve-004.jpg</a>  <a href="#">eaton-mcb-current-xeffect-az-characteristic-curve-002.eps</a>  <a href="#">eaton-mcb-xeffect-az-characteristic-curve.eps</a>  <a href="#">eaton-mcb-current-xeffect-az-characteristic-curve.eps</a>
<b>DECLARATIONS OF CONFORMITY</b>	<a href="#">DA-DC-03_AZ</a>  <a href="#">eaton-xpole-mmct-mcb-dimensions.jpg</a>  <a href="#">eaton-mcb-xeffect-az-dimensions-003.eps</a>
<b>DRAWINGS</b>	<a href="#">eaton-mcb-faz-xeffect-faz-3d-drawing-002.eps</a>  <a href="#">eaton-xeffect-az-mcb-3d-drawing-002.jpg</a>  <a href="#">eaton-xeffect-az-mcb-3d-drawing.jpg</a>
<b>ECAD MODEL</b>	<a href="#">DA-CE-ETN.AZ-2-C20</a>

	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 AGAINST ELECTRIC SHOCK</b>	Does not apply, since the 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.
<b>FRAME</b>	45 mm
<b>POLLUTION DEGREE</b>	2
<b>MOUNTING METHOD</b>	Top-hat rail IEC/EN 60715
<b>DEGREE OF PROTECTION</b>	IP20 IP40 (when fitted)
<b>EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT</b>	5.42 W 5.4 W
<b>RATED IMPULSE WITHSTAND VOLTAGE (UIMP)</b>	4 kV
<b>ADMISSIBLE BACK-UP FUSE - MAX</b>	200 A gL/gG
<b>TERMINAL PROTECTION</b>	Finger and hand touch safe, DGUV VS3, EN 50274
<b>TERMINALS (TOP AND BOTTOM)</b>	Lift terminals
<b>TRIPPING CHARACTERISTIC</b>	C
<b>AMBIENT OPERATING TEMPERATURE - MAX</b>	55 °C

<b>INSTALLATION INSTRUCTIONS</b>	<a href="#">IL019148ZU</a>
<b>MCAD MODEL</b>	<a href="#">DA-CD-az_1pn_2p</a> <a href="#">DA-CS-az_1pn_2p</a>
<b>WIRING DIAGRAMS</b>	<a href="#">eaton-mcb-xeffect-faz-wiring-diagram-002.eps</a> <a href="#">eaton-xpole-mmc4-6-m-mcb-wiring-diagram-003.jpg</a>

<b>AMBIENT OPERATING TEMPERATURE - MIN</b>	-25 °C
<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>CURRENT LIMITING CLASS</b>	3
<b>ENCLOSURE WIDTH</b>	90 mm
<b>FREQUENCY RATING - MAX</b>	60 Hz
<b>FREQUENCY RATING - MIN</b>	50 Hz
<b>HEAT DISSIPATION CAPACITY</b>	0 W
<b>HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT</b>	2.7 W
<b>DIRECTION OF INCOMING SUPPLY</b>	As required
<b>WIDTH IN NUMBER OF MODULAR SPACINGS</b>	3
<b>VOLTAGE RATING AT DC</b>	60 V DC (per pole)
<b>VOLTAGE TYPE</b>	AC
<b>OVERVOLTAGE CATEGORY</b>	III
<b>NUMBER OF POLES</b>	Two-pole
<b>LIFESPAN, ELECTRICAL</b>	10000 operations
<b>RELEASE CHARACTERISTIC</b>	C
<b>TYPE</b>	<ul style="list-style-type: none"> <li>• AZ</li> <li>• Miniature circuit breaker</li> </ul>
<b>SPECIAL FEATURES</b>	Ambient temperature hint:

a 1 °C increase results in a 0.5% linear reduction of current carrying capacity

<b>APPLICATION</b>	<ul style="list-style-type: none"><li>• Switchgear for industrial and advanced commercial applications</li><li>• xEffect - Switchgear for industrial and advanced commercial applications</li></ul>
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<b>MOUNTING WIDTH</b>	27 mm
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<b>SELECTIVITY CLASS</b>	3
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<b>MOUNTING WIDTH PER POLE</b>	27 mm
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<b>NUMBER OF POLES (PROTECTED)</b>	2
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<b>NUMBER OF POLES (TOTAL)</b>	2
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<b>OPERATIONAL SWITCHING CAPACITY</b>	20 kA
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<b>RATED INSULATION VOLTAGE (UI)</b>	440 V
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<b>RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)</b>	20 A
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<b>RATED OPERATIONAL VOLTAGE (UE) - MAX</b>	400 V
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<b>RATED SHORT-CIRCUIT BREAKING CAPACITY (EN 60898) AT 230 V</b>	0 kA
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<b>RATED SHORT-CIRCUIT BREAKING CAPACITY (EN 60898) AT 400 V</b>	0 kA
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<b>RATED SHORT-CIRCUIT BREAKING CAPACITY (IEC 60947-2) AT 230 V</b>	25 kA
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<b>RATED SHORT-CIRCUIT BREAKING CAPACITY (IEC 60947-2) AT 400 V</b>	25 kA
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<b>RATED SWITCHING CAPACITY (IEC/EN 60947-2)</b>	25 kA
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<b>STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT</b>	0 W
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**TERMINAL CAPACITY  
(CONTROL CABLE)**

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2.5 mm<sup>2</sup> - 50 mm<sup>2</sup>

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**PROJECT NAME:**

**PROJECT NUMBER:**

**PREPARED BY:**

**DATE:**

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