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## Eaton 129710

Eaton Moeller series NZM - Molded Case Circuit Breaker. Circuit-breaker, 3p, 125A, +residual current circuit-breaker, 30mA, AC/DC sensitive

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<b>PRODUCT NAME</b>	Eaton Moeller series NZM molded case circuit breaker thermo-magnetic
<b>CATALOG NUMBER</b>	129710
<b>PRODUCT LENGTH/DEPTH</b>	293 mm
<b>PRODUCT HEIGHT</b>	145 mm
<b>PRODUCT WIDTH</b>	140 mm
<b>PRODUCT WEIGHT</b>	4.738 kg
<b>COMPLIANCES</b>	RoHS conform
<b>CERTIFICATIONS</b>	IEC/EN 60947 VDE 0660 EN 62423: Type B IEC



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<b>AMPERAGE RATING</b>	125 A
<b>VOLTAGE RATING</b>	400 V - 400 V
<b>CIRCUIT BREAKER FRAME TYPE</b>	NZM2
<b>FEATURES</b>	Protection unit Motor drive optional

### 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.

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[eaton-circuit-breaker-nzm-mccb-characteristic-curve-003.eps](#)

[eaton-circuit-breaker-let-through-current-nzm-mccb-characteristic-curve-005.eps](#)

### CHARACTERISTIC CURVE

[eaton-circuit-breaker-nzm-mccb-characteristic-curve-050.eps](#)

[eaton-circuit-breaker-characteristic-power-defense-mccb-characteristic-curve-037.eps](#)

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[eaton-residual-current-device-3-pole-nzm2-il01219040z.pdf](#)

[eaton-circuit-breaker-current-nzm-mccb-dimensions.eps](#)

[eaton-circuit-breaker-nzm-mccb-dimensions-019.eps](#)

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[eaton-circuit-breaker-symbol-nzm-earth-fault-release-symbol.eps](#)

[eaton-general-nzm-mccb-symbol.eps](#)

[eaton-circuit-breaker-nzm-mccb-3d-drawing-003.eps](#)

<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>POLLUTION DEGREE</b>	3
<b>MOUNTING METHOD</b>	DIN rail (top hat rail) mounting optional Fixed Built-in device fixed built-in technique
<b>CLIMATIC PROOFING</b>	Damp heat, cyclic, to IEC 60068-2-30 Damp heat, constant, to IEC 60068-2-78
<b>EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT</b>	27.61 W
<b>UTILIZATION CATEGORY</b>	A (IEC/EN 60947-2)
<b>ISOLATION</b>	500 V AC (between auxiliary contacts and main contacts) 300 V AC (between the auxiliary contacts)
<b>AMBIENT OPERATING TEMPERATURE - MAX</b>	70 °C
<b>AMBIENT OPERATING TEMPERATURE - MIN</b>	-25 °C
<b>AMBIENT STORAGE TEMPERATURE - MAX</b>	70 °C
<b>AMBIENT STORAGE TEMPERATURE - MIN</b>	40 °C
<b>NUMBER OF AUXILIARY</b>	0

<b>CONTACTS (CHANGE-OVER CONTACTS)</b>	
<b>NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS)</b>	0
<b>NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS)</b>	0
<b>PROTECTION AGAINST DIRECT CONTACT</b>	Finger and back-of-hand proof to DIN EN 50274/VDE 0106 part 110
<b>DEGREE OF PROTECTION</b>	IP20 (basic degree of protection, in the operating controls area) IP20
<b>DIRECTION OF INCOMING SUPPLY</b>	Bottom
<b>ELECTRICAL CONNECTION TYPE OF MAIN CIRCUIT</b>	Screw connection
<b>LIFESPAN, MECHANICAL</b>	20000 operations
<b>OVERVOLTAGE CATEGORY</b>	III
<b>DEGREE OF PROTECTION (IP), FRONT SIDE</b>	IP66 (with door coupling rotary handle) IP40 (with insulating surround)
<b>DEGREE OF PROTECTION (TERMINATIONS)</b>	IP00 (terminations, phase isolator and strip terminal) IP10 (tunnel terminal)
<b>NUMBER OF POLES</b>	Three-pole
<b>TERMINAL CAPACITY (COPPER STRIP)</b>	Max. 10 segments of 24 mm x 0.8 mm at rear-side connection (punched) Max. 10 segments of 16 mm x 0.8 mm at box terminal Max. 8 segments of 24 mm x 1 mm (2x) at box terminal Min. 2 segments of 16 mm x 0.8 mm at rear-side connection (punched) Min. 2 segments of 9 mm x 0.8 mm at box terminal
<b>LIFESPAN, ELECTRICAL</b>	6500 operations at 400 V AC-3 10000 operations at 400 V AC-1 10000 operations at 415 V AC-1 6500 operations at 415 V AC-3

<b>FUNCTIONS</b>	System and cable protection, fire protection, personnel protection
<b>TYPE</b>	Circuit breaker
<b>SPECIAL FEATURES</b>	<ul style="list-style-type: none"> <li>• For equipment with power electronics, such as inverters and variable frequency drives</li> <li>• Ready-to-connect combination consisting of type B circuit-breaker and residual current circuit-breaker and type A passive section</li> <li>• Suitability for the application in three-phase systems without neutral conductor</li> <li>• Personnel protection and preventive fire protection for 0 - 100 kHz fault current frequency</li> <li>• Operational voltage range Type B 50 - 400 V AC (+ 10 %)</li> <li>• Type A functionality even without operational voltage for rated frequency of 50 Hz</li> <li>• Not UL/CSA approved</li> <li>• Adjusting buttons can be sealed.</li> <li>• Rated operating voltage 400 V AC (+/- 10 %)</li> <li>• Rated frequency 50 Hz</li> <li>• Rated fault current <math>I_{\Delta n} = 0.03 \text{ A}</math></li> <li>• Depending on the cable manufacturer up to 240 mm<sup>2</sup> can be connected</li> <li>• Maximum back-up fuse, if the expected short-circuit currents at the installation location exceed the switching capacity</li> </ul>

	of the circuit breaker (Rated short-circuit breaking capacity I <sub>cn</sub> ) <ul style="list-style-type: none"> <li>Rated current = rated uninterrupted current: 125 A</li> </ul>
<b>APPLICATION</b>	Use in unearthed supply systems at 400 V
<b>SHOCK RESISTANCE</b>	20 g (half-sinusoidal shock 20 ms)
<b>POSITION OF CONNECTION FOR MAIN CURRENT CIRCUIT</b>	Front side
<b>RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)</b>	125 A
<b>POWER LOSS</b>	27.6 W
<b>RELEASE SYSTEM</b>	Thermomagnetic release, AC/DC sensitive earth-fault release
<b>SHORT-CIRCUIT TOTAL BREAKTIME</b>	< 10 ms
<b>RATED SHORT-TIME WITHSTAND CURRENT (T = 0.3 S)</b>	1.9 kA
<b>RATED SHORT-TIME WITHSTAND CURRENT (T = 1 S)</b>	1.9 kA
<b>SHORT-CIRCUIT RELEASE NON-DELAYED SETTING - MAX</b>	1250 A
<b>SHORT-CIRCUIT RELEASE NON-DELAYED SETTING - MIN</b>	750 A
<b>TERMINAL CAPACITY (CONTROL CABLE)</b>	0.75 mm <sup>2</sup> - 1.5 mm <sup>2</sup> (2x) 0.75 mm <sup>2</sup> - 2.5 mm <sup>2</sup> (1x)
<b>TERMINAL CAPACITY (COPPER BUSBAR)</b>	Max. 24 mm x 8 mm direct at switch rear-side connection M8 at rear-side screw connection Min. 16 mm x 5 mm direct at switch rear-side connection
<b>TERMINAL CAPACITY (COPPER SOLID CONDUCTOR/CABLE)</b>	6 mm <sup>2</sup> - 16 mm <sup>2</sup> (2x) at box terminal 16 mm <sup>2</sup> (1x) at tunnel terminal 10 mm <sup>2</sup> - 16 mm <sup>2</sup> (1x)

	direct at switch rear-side connection 10 mm <sup>2</sup> - 16 mm <sup>2</sup> (1x) at box terminal 6 mm <sup>2</sup> - 16 mm <sup>2</sup> (2x) direct at switch rear-side connection
<b>TERMINAL CAPACITY (ALUMINUM SOLID CONDUCTOR/CABLE)</b>	16 mm <sup>2</sup> (1x) at tunnel terminal
<b>TERMINAL CAPACITY (COPPER STRANDED CONDUCTOR/CABLE)</b>	25 mm <sup>2</sup> - 185 mm <sup>2</sup> (1x) at 1-hole tunnel terminal 25 mm <sup>2</sup> - 70 mm <sup>2</sup> (2x) at box terminal 25 mm <sup>2</sup> - 185 mm <sup>2</sup> (1x) direct at switch rear-side connection 25 mm <sup>2</sup> - 70 mm <sup>2</sup> (2x) direct at switch rear-side connection 25 mm <sup>2</sup> - 185 mm <sup>2</sup> (1x) at box terminal
<b>TERMINAL CAPACITY (ALUMINUM STRANDED CONDUCTOR/CABLE)</b>	25 mm <sup>2</sup> - 185 mm <sup>2</sup> (1x) at tunnel terminal
<b>HANDLE TYPE</b>	Rocker lever
<b>SHORT DELAY CURRENT SETTING (ISD) - MAX</b>	0 A
<b>SHORT DELAY CURRENT SETTING (ISD) - MIN</b>	0 A
<b>INSTANTANEOUS CURRENT SETTING (II) - MAX</b>	1250 A
<b>INSTANTANEOUS CURRENT SETTING (II) - MIN</b>	750 A
<b>NUMBER OF OPERATIONS PER HOUR - MAX</b>	120
<b>OVERLOAD CURRENT SETTING (IR) - MAX</b>	125 A
<b>OVERLOAD CURRENT SETTING (IR) - MIN</b>	100 A
<b>RATED SHORT-CIRCUIT BREAKING CAPACITY ICS (IEC/EN 60947) AT 230 V, 50/60 HZ</b>	150 kA
<b>RATED SHORT-CIRCUIT BREAKING CAPACITY ICS (IEC/EN 60947) AT 400/415 V, 50/60 HZ</b>	150 kA
<b>RATED SHORT-CIRCUIT MAKING CAPACITY ICM AT 400/415 V, 50/60 HZ</b>	330 kA

STANDARD TERMINALS	Screw terminal
OPTIONAL TERMINALS	Box terminal. Connection on rear. Tunnel terminal
RATED SHORT-CIRCUIT MAKING CAPACITY ICM AT 240 V, 50/60 HZ	330 kA
RATED IMPULSE WITHSTAND VOLTAGE (UIMP) AT AUXILIARY CONTACTS	6000 V
RATED IMPULSE WITHSTAND VOLTAGE (UIMP) AT MAIN CONTACTS	8000 V
RATED INSULATION VOLTAGE (UI)	1000 V AC

PROJECT NAME:
PROJECT NUMBER:
PREPARED BY:



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