

# Specifications



Photo is representative

## Eaton 290361

Eaton Moeller series NZM - Molded Case Circuit Breaker. Circuit-breaker, 3p, 80A 1000V

### General specifications

<b>PRODUCT NAME</b>	Eaton Moeller series NZM molded case circuit breaker thermo-magnetic
<b>CATALOG NUMBER</b>	290361
<b>MODEL CODE</b>	NZMH2-A80-S1
<b>EAN</b>	4015082903619
<b>PRODUCT LENGTH/DEPTH</b>	149 mm
<b>PRODUCT HEIGHT</b>	184 mm
<b>PRODUCT WIDTH</b>	105 mm
<b>PRODUCT WEIGHT</b>	2.345 kg
<b>COMPLIANCES</b>	RoHS conform
<b>CERTIFICATIONS</b>	IEC
<b>GLOBAL CATALOG</b>	290361



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## Product specifications

<b>AMPERAGE RATING</b>	80 A
<b>VOLTAGE RATING</b>	1000 V - 1000 V
<b>CIRCUIT BREAKER FRAME TYPE</b>	NZM2
<b>FEATURES</b>	Motor drive optional Protection unit
<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.

## Resources

<b>BROCHURES</b>	<a href="#">eaton-digital-nzm-brochure-br013003en-en-us.pdf</a>  <a href="#">eaton-feerum-the-whole-grain-solution-success-story-en-us.pdf</a>
<b>CATALOGS</b>	<a href="#">eaton-digital-nzm-catalog-ca013003en-en-us.pdf</a>  <a href="#">eaton-circuit-breaker-characteristic-power-defense-mccb-characteristic-curve-037.eps</a>
<b>CHARACTERISTIC CURVE</b>	<a href="#">eaton-circuit-breaker-let-through-current-nzm-mccb-characteristic-curve-005.eps</a>  <a href="#">eaton-circuit-breaker-nzm-mccb-characteristic-curve-050.eps</a>
<b>DECLARATIONS OF CONFORMITY</b>	<a href="#">eaton-molded-case-circuit-breaker-declaration-of-conformity-eu250290en.pdf</a>  <a href="#">eaton-circuit-breaker-switch-nzm-mccb-dimensions-017.eps</a>  <a href="#">eaton-circuit-breaker-nzm-mccb-dimensions-019.eps</a>
<b>DRAWINGS</b>	<a href="#">eaton-circuit-breaker-switch-nzm-mccb-dimensions-014.eps</a>  <a href="#">eaton-circuit-breaker-switch-nzm-mccb-3d-drawing.eps</a>
<b>INSTALLATION INSTRUCTIONS</b>	<a href="#">eaton-circuit-breakers-basic-device-nzm2-il01206006z.pdf</a>
<b>INSTALLATION VIDEOS</b>	<a href="#">Introduction of the new digital circuit breaker NZM</a>  <a href="#">The new digital NZM Range</a>
<b>MCAD MODEL</b>	<a href="#">DA-CS-nzm2_3p</a>  <a href="#">DA-CD-nzm2_3p</a>
<b>PEP ECO-PASSPORT</b>	<a href="#">eaton-molded-case-switches-pep-eato-00207-v0101-en.pdf</a>

<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>	Fixed DIN rail (top hat rail) mounting optional Built-in device fixed built-in technique
<b>EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT</b>	20.54 W
<b>UTILIZATION CATEGORY</b>	A
<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 CONTACTS (CHANGE-OVER CONTACTS)</b>	0
<b>NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS)</b>	0
<b>NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS)</b>	0

<b>DEGREE OF PROTECTION</b>	IP20
<b>ELECTRICAL CONNECTION TYPE OF MAIN CIRCUIT</b>	Screw connection
<b>LIFESPAN, MECHANICAL</b>	20000 operations
<b>OVERVOLTAGE CATEGORY</b>	III
<b>NUMBER OF POLES</b>	Three-pole
<b>TERMINAL CAPACITY (COPPER STRIP)</b>	<p>Min. 2 segments of 9 mm x 0.8 mm at box terminal  Max. 8 segments of 24 mm x 1 mm (2x) at box terminal</p> <p>Min. 2 segments of 16 mm x 0.8 mm at rear-side connection (punched)  Max. 10 segments of 16 mm x 0.8 mm at rear-side connection (punched)  Max. 10 segments of 16 mm x 0.8 mm at box terminal</p>
<b>LIFESPAN, ELECTRICAL</b>	3000 operations at 1000 V AC-1
<b>FUNCTIONS</b>	System and cable protection
<b>TYPE</b>	Circuit breaker
<b>SPECIAL FEATURES</b>	<ul style="list-style-type: none"> <li>• Lifespan, mechanical: of which max. 50 % trip by shunt/undervoltage release</li> <li>• NZM...S1 terminal type: NZM...XKSA cover required</li> <li>• Rated current = rated uninterrupted current: 80 A</li> <li>• Terminal capacity hint: Up to 240 mm<sup>2</sup> can be connected depending on the cable manufacturer.</li> </ul>
<b>POSITION OF CONNECTION FOR MAIN CURRENT CIRCUIT</b>	Front side
<b>RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)</b>	80 A

<b>POWER LOSS</b>	20.5 W
<b>RELEASE SYSTEM</b>	Thermomagnetic release
<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>	800 A
<b>SHORT-CIRCUIT RELEASE NON-DELAYED SETTING - MIN</b>	480 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 Min. 16 mm x 5 mm direct at switch rear-side connection M8 at rear-side screw connection
<b>TERMINAL CAPACITY (COPPER SOLID CONDUCTOR/CABLE)</b>	6 mm <sup>2</sup> - 16 mm <sup>2</sup> (2x) at box 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 10 mm <sup>2</sup> - 16 mm <sup>2</sup> (2x) direct at switch rear-side connection 16 mm <sup>2</sup> (1x) at tunnel terminal
<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> - 70 mm <sup>2</sup> (2x) at box terminal 25 mm <sup>2</sup> - 185 mm <sup>2</sup> (1x) at box terminal 25 mm <sup>2</sup> - 185 mm <sup>2</sup> (1x) at tunnel terminal 25 mm <sup>2</sup> - 50 mm <sup>2</sup> (2x) direct at switch rear-side connection
<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>	800 A
<b>INSTANTANEOUS CURRENT SETTING (II) - MIN</b>	480 A
<b>NUMBER OF OPERATIONS PER HOUR - MAX</b>	120
<b>OVERLOAD CURRENT SETTING (IR) - MAX</b>	80 A
<b>OVERLOAD CURRENT SETTING (IR) - MIN</b>	63 A
<b>RATED SHORT-CIRCUIT BREAKING CAPACITY ICS (IEC/EN 60947) AT 1000 V, 50/60 HZ</b>	3 kA
<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 BREAKING CAPACITY ICS (IEC/EN 60947) AT 440 V, 50/60 HZ</b>	130 kA
<b>RATED SHORT-CIRCUIT BREAKING CAPACITY ICS (IEC/EN 60947) AT 525 V, 50/60 HZ</b>	37.5 kA
<b>RATED SHORT-CIRCUIT BREAKING CAPACITY ICS (IEC/EN 60947) AT 690 V, 50/60 HZ</b>	5 kA
<b>RATED SHORT-CIRCUIT MAKING CAPACITY ICM AT 1000 V, 50/60 HZ</b>	17 kA
<b>RATED SHORT-CIRCUIT MAKING CAPACITY ICM AT 400/415 V, 50/60 HZ</b>	330 kA
<b>RATED SHORT-CIRCUIT MAKING CAPACITY ICM AT 440 V, 50/60 HZ</b>	286 kA
<b>RATED SHORT-CIRCUIT MAKING CAPACITY ICM AT 525 V, 50/60 HZ</b>	105 kA
<b>RATED SHORT-CIRCUIT MAKING CAPACITY ICM</b>	40 kA

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**AT 690 V, 50/60 HZ**

<b>STANDARD TERMINALS</b>	Screw terminal
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<b>RATED SHORT-CIRCUIT MAKING CAPACITY ICM AT 240 V, 50/60 HZ</b>	330 kA
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<b>RATED IMPULSE WITHSTAND VOLTAGE (UIMP) AT AUXILIARY CONTACTS</b>	6000 V
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<b>RATED IMPULSE WITHSTAND VOLTAGE (UIMP) AT MAIN CONTACTS</b>	8000 V
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<b>RATED INSULATION VOLTAGE (UI)</b>	1000 V AC
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**PROJECT NAME:**

**PROJECT NUMBER:**

**PREPARED BY:**

**DATE:**

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