

# Specifications



Photo is representative

## Eaton 110286

Eaton Moeller series NZM - Molded Case Circuit Breaker. Circuit-breaker, 3p, 300A, box terminals, busbar terminal for CU H, frame 2, A300-BT

### General specifications

<b>PRODUCT NAME</b>	Eaton Moeller series NZM molded case circuit breaker thermo-magnetic
<b>CATALOG NUMBER</b>	110286
<b>MODEL CODE</b>	NZMH2-A300-BT
<b>EAN</b>	4015081098347
<b>PRODUCT LENGTH/DEPTH</b>	149 mm
<b>PRODUCT HEIGHT</b>	184 mm
<b>PRODUCT WIDTH</b>	105 mm
<b>PRODUCT WEIGHT</b>	2.495 kg
<b>COMPLIANCES</b>	RoHS conform
<b>CERTIFICATIONS</b>	IEC/EN 60947 IEC

## Product specifications

<b>AMPERAGE RATING</b>	300 A
<b>VOLTAGE RATING</b>	690 V - 690 V
<b>CIRCUIT BREAKER FRAME TYPE</b>	NZM2
<b>FEATURES</b>	Protection unit Motor drive optional
<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

### BROCHURES

[eaton-feerum-the-whole-grain-solution-success-story-en-us.pdf](#)

[eaton-digital-nzm-brochure-br013003en-en-us.pdf](#)

### CATALOGUES

[eaton-digital-nzm-catalog-ca013003en-en-us.pdf](#)

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

### CHARACTERISTIC CURVE

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

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

### DECLARATIONS OF CONFORMITY

[eaton-molded-case-circuit-breaker-declaration-of-conformity-eu250290en.pdf](#)

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

### DRAWINGS

[eaton-circuit-breaker-switch-nzm-mccb-dimensions-017.eps](#)

### INSTALLATION VIDEOS

[The new digital NZM Range](#)

[Introduction of the new digital circuit breaker NZM](#)

### MCAD MODEL

[DA-CS-nzm2\\_3p](#)

[DA-CD-nzm2\\_3p](#)

### PEP ECO-PASSPORT

[eaton-molded-case-switches-pep-eato-00207-v0101-en.pdf](#)

### TECHNICAL DATA SHEETS

[eaton-nzm-technical-information-sheet](#)

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>POLLUTION DEGREE</b>	3
<b>MOUNTING METHOD</b>	DIN rail (top hat rail) mounting optional Built-in device fixed built-in technique Fixed
<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>	83.7 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</b>	-25 °C

<b>TEMPERATURE - MIN</b>	
<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>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>	As required
<b>ELECTRICAL CONNECTION TYPE OF MAIN CIRCUIT</b>	Frame clamp
<b>LIFESPAN, MECHANICAL</b>	20000 operations
<b>OVERTVOLTAGE CATEGORY</b>	III
<b>DEGREE OF PROTECTION (IP), FRONT SIDE</b>	IP40 (with insulating surround) IP66 (with door coupling rotary handle)
<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>	Min. 2 segments of 9 mm x 0.8 mm at box terminal Max. 10 segments of 24 mm x 0.8 mm at rear-side connection (punched) 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) Max. 10 segments of 16

	mm x 0.8 mm at box terminal
<b>LIFESPAN, ELECTRICAL</b>	10000 operations at 415 V AC-1 5000 operations at 690 V AC-3 6500 operations at 400 V AC-3 7500 operations at 690 V AC-1 10000 operations at 400 V AC-1 6500 operations at 415 V AC-3
<b>FUNCTIONS</b>	System and cable protection
<b>TYPE</b>	Circuit breaker
<b>SPECIAL FEATURES</b>	<ul style="list-style-type: none"> <li>• Maximum back-up fuse, if the expected short-circuit currents at the installation location exceed the switching capacity of the circuit breaker (Rated short-circuit breaking capacity Icn)</li> <li>• Rated current = rated uninterrupted current: 300 A</li> </ul>
<b>APPLICATION</b>	Use in unearthing supply systems at 690 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>	300 A
<b>POWER LOSS</b>	83.7 W
<b>RELEASE SYSTEM</b>	Thermomagnetic release
<b>SHORT-CIRCUIT TOTAL BREAKTIME</b>	< 10 ms
<b>RATED SHORT-TIME WITHSTAND CURRENT (T = 0.3 S)</b>	1.9 kA

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**RATED SHORT-TIME****WITHSTAND CURRENT (T = 1 S)** 1.9 kA**SHORT-CIRCUIT RELEASE****NON-DELAYED SETTING - MAX****SHORT-CIRCUIT RELEASE****NON-DELAYED SETTING - MIN****TERMINAL CAPACITY (CONTROL CABLE)**0.75 mm<sup>2</sup> - 2.5 mm<sup>2</sup> (1x)  
0.75 mm<sup>2</sup> - 1.5 mm<sup>2</sup> (2x)Min. 16 mm x 5 mm direct  
at switch rear-side  
connection**TERMINAL CAPACITY (COPPER BUSBAR)**Max. 24 mm x 8 mm direct  
at switch rear-side  
connection  
M8 at rear-side screw  
connection**TERMINAL CAPACITY (COPPER SOLID CONDUCTOR/CABLE)**6 mm<sup>2</sup> - 16 mm<sup>2</sup> (2x) 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> (1x)  
direct at switch rear-side  
connection  
6 mm<sup>2</sup> - 16 mm<sup>2</sup> (2x) at  
box terminal  
16 mm<sup>2</sup> (1x) at tunnel  
terminal**TERMINAL CAPACITY (ALUMINUM SOLID CONDUCTOR/CABLE)**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> (2x)  
direct at switch rear-side  
connection  
16 mm<sup>2</sup> (1x) at tunnel  
terminal**TERMINAL CAPACITY (COPPER STRANDED CONDUCTOR/CABLE)**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  
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> - 185 mm<sup>2</sup> (1x) at  
1-hole tunnel terminal**TERMINAL CAPACITY (ALUMINUM STRANDED**25 mm<sup>2</sup> - 50 mm<sup>2</sup> (1x)  
direct at switch rear-side

<b>CONDUCTOR/CABLE)</b>	connection 25 mm <sup>2</sup> - 50 mm <sup>2</sup> (2x) direct at switch rear-side connection 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>	2500 A
<b>INSTANTANEOUS CURRENT SETTING (II) - MIN</b>	2000 A
<b>NUMBER OF OPERATIONS PER HOUR - MAX</b>	120
<b>OVERLOAD CURRENT SETTING (IR) - MAX</b>	300 A
<b>OVERLOAD CURRENT SETTING (IR) - MIN</b>	240 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 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>	3 kA
<b>RATED SHORT-CIRCUIT BREAKING CAPACITY ICS (IEC/EN 60947) AT 690 V, 50/60 HZ</b>	3 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</b>	
<b>MAKING CAPACITY ICM</b>	105 kA
<b>AT 525 V, 50/60 Hz</b>	
<b>RATED SHORT-CIRCUIT</b>	
<b>MAKING CAPACITY ICM</b>	40 kA
<b>AT 690 V, 50/60 Hz</b>	
<b>STANDARD TERMINALS</b>	Box terminal
<b>OPTIONAL TERMINALS</b>	Connection on rear. Screw terminal. Tunnel terminal
<b>RATED SHORT-CIRCUIT</b>	
<b>MAKING CAPACITY ICM</b>	330 kA
<b>AT 240 V, 50/60 Hz</b>	
<b>RATED IMPULSE</b>	
<b>WITHSTAND VOLTAGE (UIMP) AT AUXILIARY CONTACTS</b>	6000 V
<b>RATED IMPULSE</b>	
<b>WITHSTAND VOLTAGE (UIMP) AT MAIN CONTACTS</b>	8000 V
<b>RATED INSULATION VOLTAGE (UI)</b>	1000 V AC

**PROJECT NAME:**

**PROJECT NUMBER:**

**PREPARED BY:**

**DATE:**



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