

# Specifications



Photo is representative

## Eaton 189678

NZMH4-4-PX1000/VAR-TAZ-AVE. NZM4  
PXR25 circuit breaker - integrated energy  
measurement class 1, 1000A, 4p, variable,  
Screw terminal, earth-fault protection, ARMS  
and zone selectivity, withdrawable unit

### General specifications

<b>PRODUCT NAME</b>	Eaton Moeller series NZM molded case circuit breaker electronic
<b>CATALOG NUMBER</b>	189678
<b>MODEL CODE</b>	NZMH4-4-PX1000/VAR- TAZ-AVE
<b>EAN</b>	4015081876259
<b>PRODUCT LENGTH/DEPTH</b>	501 mm
<b>PRODUCT HEIGHT</b>	280 mm
<b>PRODUCT WIDTH</b>	330 mm
<b>PRODUCT WEIGHT</b>	35.5 kg
<b>COMPLIANCES</b>	RoHS conform
<b>CERTIFICATIONS</b>	IEC/EN 60947 IEC
<b>GLOBAL CATALOG</b>	189678

## Product specifications

<b>AMPERAGE RATING</b>	1000 A
<b>VOLTAGE RATING</b>	690 V - 690 V
<b>CIRCUIT BREAKER FRAME TYPE</b>	NZM4
<b>FEATURES</b>	Protection unit Motor drive optional
<b>ACCESSORIES REQUIRED</b>	NZM4-4-XAVS
<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.

## Resources

### BROCHURES

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

### CATALOGS

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

### DECLARATIONS OF CONFORMITY

[eaton-molded-case-circuit-breaker-declaration-of-conformity-eu250294en.pdf](#)

### DRAWINGS

[eaton-circuit-breaker-nzm-mccb-dimensions-023.eps](#)  
[eaton-circuit-breaker-withdrawable-unit-nzm-mccb-dimensions.eps](#)

### INSTALLATION INSTRUCTIONS

[eaton-circuit-breaker-basic-unit-bg4-i012101zu.pdf](#)

### INSTALLATION VIDEOS

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

[The new digital NZM Range](#)

### MCAD MODEL

[DA-CS-nzm4\\_4p](#)  
[DA-CD-nzm4\\_4p](#)

### PEP ECO-PASSPORT

[eaton-molded-case-switches-pep-eato-00243-v0101-en.pdf](#)

### TECHNICAL DATA SHEETS

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

<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>	Withdrawable Built-in device slide-in technique (withdrawable)
<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>	123 W
<b>UTILIZATION CATEGORY</b>	B (IEC/EN 60947-2)
<b>ISOLATION</b>	300 V AC (between the auxiliary contacts) 500 V AC (between auxiliary contacts and main 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 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>	Other
<b>CURRENT RATING OF NEUTRAL CONDUCTOR</b>	0 - 60% - 100% of phase conductor
<b>LIFESPAN, MECHANICAL</b>	10000 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>	Four-pole
<b>TERMINAL CAPACITY (COPPER STRIP)</b>	Max. 10 segments of 32 mm x 1 mm (2x) at flat conductor terminal Min. 5 segments of 25 mm x 1 mm at rear-side connection (punched) Max. 10 segments of 50 mm x 1 mm (2x) at rear-side connection (punched)  10 segments of 80 mm x 1 mm (2x) at rear-side width extension Min. 6 segments of 16 mm x 0.8 mm at flat conductor terminal 10 segments of 50 mm x 1 mm (2x) at 1-hole module plate

<b>LIFESPAN, ELECTRICAL</b>	2000 operations at 690 V AC-1 3000 operations at 400 V AC-1 3000 operations at 415 V AC-1
<b>FUNCTIONS</b>	Earth-fault protection Integrated earth fault protection Zone selectivity ARMS maintenance mode Systems, cable, selectivity and generator protection
<b>EARTH-FAULT CURRENT SETTING (IG) - MAX</b>	1000 x In
<b>TYPE</b>	Circuit breaker
<b>SPECIAL FEATURES</b>	<ul style="list-style-type: none"> <li>• LSIG overload protection and delayed and non-delayed short-circuit protective device, earth-fault protection</li> <li>• Class 1 energy measurement, r.m.s. value measurement, and "thermal memory"</li> <li>• USB interface for configuration and test function with Power Xpert Protection Manager software</li> <li>• Zone selectivity ZSI</li> <li>• Maintenance Mode ARMS</li> <li>• Interface module in equipment supplied.</li> <li>• Optionally communication-capable with internal Modbus RTU module or CAM</li> <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)</li> </ul>

Icn)  
 • Rated current =  
 rated  
 uninterrupted  
 current: 1000 A

<b>APPLICATION</b>	Use in unearthed supply systems at 525 V
<b>SHOCK RESISTANCE</b>	15 g (half-sinusoidal shock 11 ms)
<b>EARTH-FAULT CURRENT SETTING (IG) - MIN</b>	200 x In
<b>POSITION OF CONNECTION FOR MAIN CURRENT CIRCUIT</b>	Connection at separate chassis part
<b>RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)</b>	1000 A
<b>RELEASE SYSTEM</b>	Electronic release
<b>SHORT-CIRCUIT TOTAL BREAKTIME</b>	< 25 ms ( $\leq$ 415 V); < 35 ms ( $>$ 415 V)
<b>RATED SHORT-TIME WITHSTAND CURRENT (T = 0.3 S)</b>	19.2 kA
<b>RATED SHORT-TIME WITHSTAND CURRENT (T = 1 S)</b>	19.2 kA
<b>SHORT-CIRCUIT RELEASE DELAYED SETTING - MAX</b>	10000 A
<b>SHORT-CIRCUIT RELEASE DELAYED SETTING - MIN</b>	800 A
<b>SHORT-CIRCUIT RELEASE NON-DELAYED SETTING - MAX</b>	18000 A
<b>SHORT-CIRCUIT RELEASE NON-DELAYED SETTING - MIN</b>	2000 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. 50 mm x 10 mm (2x) at rear-side 1-hole module plate M10 at rear-side screw connection Max. 80 mm x 10 mm (2x) at rear-side width extension Min. 25 mm x 5 mm direct at switch rear-side connection 50 mm x 10 mm (2x) at rear-side 2-hole module plate

	Max. 50 mm x 10 mm (2x) direct at switch rear-side connection Min. 25 mm x 5 mm at rear-side 1-hole module plate Min. 60 mm x 10 mm at rear-side width extension
<b>TERMINAL CAPACITY (COPPER SOLID CONDUCTOR/CABLE)</b>	95 mm <sup>2</sup> - 240 mm <sup>2</sup> (6x) at rear-side width extension 50 mm <sup>2</sup> - 240 mm <sup>2</sup> (4x) at 4-hole tunnel terminal 95 mm <sup>2</sup> - 300 mm <sup>2</sup> (2x) at rear-side 1-hole module plate 95 mm <sup>2</sup> - 185 mm <sup>2</sup> (2x) at rear-side 2-hole module plate 120 mm <sup>2</sup> - 300 mm <sup>2</sup> (1x) at rear-side 1-hole module plate 300 mm <sup>2</sup> (4x) at rear-side width extension 35 mm <sup>2</sup> - 185 mm <sup>2</sup> (4x) at rear-side 2-hole module plate
<b>TERMINAL CAPACITY (COPPER STRANDED CONDUCTOR/CABLE)</b>	120 mm <sup>2</sup> - 185 mm <sup>2</sup> (1x) direct at switch rear-side connection 50 mm <sup>2</sup> - 185 mm <sup>2</sup> (4x) direct at switch rear-side connection
<b>TERMINAL CAPACITY (ALUMINUM STRANDED CONDUCTOR/CABLE)</b>	50 mm <sup>2</sup> - 240 mm <sup>2</sup> (4x) at 4-hole tunnel terminal
<b>HANDLE TYPE</b>	Rocker lever
<b>SHORT DELAY CURRENT SETTING (ISD) - MAX</b>	10 A
<b>SHORT DELAY CURRENT SETTING (ISD) - MIN</b>	2 A
<b>INSTANTANEOUS CURRENT SETTING (II) - MAX</b>	18 A
<b>INSTANTANEOUS CURRENT SETTING (II) - MIN</b>	2 A
<b>NUMBER OF OPERATIONS PER HOUR - MAX</b>	60
<b>OVERLOAD CURRENT SETTING (IR) - MAX</b>	1000 A
<b>OVERLOAD CURRENT SETTING (IR) - MIN</b>	400 A
<b>RATED SHORT-CIRCUIT BREAKING CAPACITY ICS</b>	63 kA

**(IEC/EN 60947) AT 230 V,  
50/60 Hz**

**RATED SHORT-CIRCUIT  
BREAKING CAPACITY ICS  
(IEC/EN 60947) AT  
400/415 V, 50/60 Hz**

50 kA

**RATED SHORT-CIRCUIT  
BREAKING CAPACITY ICS  
(IEC/EN 60947) AT 440 V,  
50/60 Hz**

50 kA

**RATED SHORT-CIRCUIT  
BREAKING CAPACITY ICS  
(IEC/EN 60947) AT 525 V,  
50/60 Hz**

37 kA

**RATED SHORT-CIRCUIT  
BREAKING CAPACITY ICS  
(IEC/EN 60947) AT 690 V,  
50/60 Hz**

37 kA

**RATED SHORT-CIRCUIT  
MAKING CAPACITY ICM  
AT 400/415 V, 50/60 Hz**

187 kA

**RATED SHORT-CIRCUIT  
MAKING CAPACITY ICM  
AT 440 V, 50/60 Hz**

187 kA

**RATED SHORT-CIRCUIT  
MAKING CAPACITY ICM  
AT 525 V, 50/60 Hz**

143 kA

**RATED SHORT-CIRCUIT  
MAKING CAPACITY ICM  
AT 690 V, 50/60 Hz**

100 kA

**STANDARD TERMINALS** Screw terminal

**OPTIONAL TERMINALS** Connection on rear. Strip terminal. Tunnel terminal

**RATED SHORT-CIRCUIT  
MAKING CAPACITY ICM  
AT 240 V, 50/60 Hz**

275 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

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**PROJECT NAME:**

**PROJECT NUMBER:**

**PREPARED BY:**

**DATE:**

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