

Specifications



Photo is representative



Eaton 189649

NZMH4-4-PX1250/VAR. NZM4 PXR25 circuit breaker - integrated energy measurement class 1, 1250A, 4p, variable, Screw terminal

General specifications

PRODUCT NAME	Eaton Moeller series NZM molded case circuit breaker electronic
CATALOG NUMBER	189649
MODEL CODE	NZMH4-4-PX1250/VAR
EAN	4015081875962
PRODUCT LENGTH/DEPTH	375 mm
PRODUCT HEIGHT	170 mm
PRODUCT WIDTH	280 mm
PRODUCT WEIGHT	25.5 kg
COMPLIANCES	RoHS conform
CERTIFICATIONS	IEC IEC/EN 60947
GLOBAL CATALOG	189649

Product specifications

AMPERAGE RATING	1250 A
VOLTAGE RATING	690 V - 690 V
CIRCUIT BREAKER FRAME TYPE	NZM4
FEATURES	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.

Resources

BROCHURES

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

[eaton-digital-nzm-brochure-br013003en-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](#)

INSTALLATION INSTRUCTIONS

[eaton-circuit-breaker-basic-unit-bg4-il012101zu.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-00230-v0101-en.pdf](#)

TECHNICAL DATA SHEETS

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

10.3 DEGREE OF PROTECTION OF ASSEMBLIES	Does not apply, since the entire switchgear needs to be evaluated.
10.4 CLEARANCES AND CREEPAGE DISTANCES	Meets the product standard's requirements.
10.5 PROTECTION AGAINST ELECTRIC SHOCK	Does not apply, since the entire switchgear needs to be evaluated.
10.6 INCORPORATION OF SWITCHING DEVICES AND COMPONENTS	Does not apply, since the entire switchgear needs to be evaluated.
10.7 INTERNAL ELECTRICAL CIRCUITS AND CONNECTIONS	Is the panel builder's responsibility.
10.8 CONNECTIONS FOR EXTERNAL CONDUCTORS	Is the panel builder's responsibility.
10.9.2 POWER-FREQUENCY ELECTRIC STRENGTH	Is the panel builder's responsibility.
10.9.3 IMPULSE WITHSTAND VOLTAGE	Is the panel builder's responsibility.
10.9.4 TESTING OF ENCLOSURES MADE OF INSULATING MATERIAL	Is the panel builder's responsibility.
POLLUTION DEGREE	3
MOUNTING METHOD	Built-in device fixed built-in technique Fixed
CLIMATIC PROOFING	Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30
EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT	173.44 W
UTILIZATION CATEGORY	B (IEC/EN 60947-2)
ISOLATION	300 V AC (between the auxiliary contacts) 500 V AC (between auxiliary contacts and main contacts)
AMBIENT OPERATING TEMPERATURE - MAX	70 °C
AMBIENT OPERATING TEMPERATURE - MIN	-25 °C
AMBIENT STORAGE TEMPERATURE - MAX	70 °C
AMBIENT STORAGE TEMPERATURE - MIN	40 °C
NUMBER OF AUXILIARY CONTACTS (CHANGE-OVER CONTACTS)	0

NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS)	0
NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS)	0
PROTECTION AGAINST DIRECT CONTACT	Finger and back-of-hand proof to DIN EN 50274/VDE 0106 part 110
DEGREE OF PROTECTION	IP20 (basic degree of protection, in the operating controls area) IP20
DIRECTION OF INCOMING SUPPLY	As required
ELECTRICAL CONNECTION TYPE OF MAIN CIRCUIT	Screw connection
CURRENT RATING OF NEUTRAL CONDUCTOR	0 - 60% - 100% of phase conductor
LIFESPAN, MECHANICAL	10000 operations
OVERVOLTAGE CATEGORY	III
DEGREE OF PROTECTION (IP), FRONT SIDE	IP66 (with door coupling rotary handle) IP40 (with insulating surround)
DEGREE OF PROTECTION (TERMINATIONS)	IP00 (terminations, phase isolator and strip terminal) IP10 (tunnel terminal)
NUMBER OF POLES	Four-pole
TERMINAL CAPACITY (COPPER STRIP)	10 segments of 50 mm x 1 mm (2x) at 1-hole module plate Max. 10 segments of 32 mm x 1 mm (2x) at flat conductor terminal 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 Min. 5 segments of 25 mm x 1 mm at rear-side connection (punched)
LIFESPAN, ELECTRICAL	3000 operations at 400 V AC-1 3000 operations at 415 V

	AC-1 2000 operations at 690 V AC-1
FUNCTIONS	Systems, cable, selectivity and generator protection
TYPE	Circuit breaker
SPECIAL FEATURES	<ul style="list-style-type: none"> • LSI overload protection and delayed and non-delayed short-circuit protective device • Class 1 energy measurement, r.m.s. value measurement, and "thermal memory" • USB interface for configuration and test function with Power Xpert Protection Manager software • Interface module in equipment supplied. • Optionally communication-capable with internal Modbus RTU module or CAM • 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 I_{cn}) • Rated current = rated uninterrupted current: 1250 A
APPLICATION	Use in unearthing supply systems at 525 V
SHOCK RESISTANCE	15 g (half-sinusoidal shock 11 ms)
POSITION OF CONNECTION FOR MAIN CURRENT CIRCUIT	Front side

RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	1250 A
RELEASE SYSTEM	Electronic release
SHORT-CIRCUIT TOTAL BREAKTIME	< 25 ms (\leq 415 V); < 35 ms ($>$ 415 V)
RATED SHORT-TIME WITHSTAND CURRENT (T = 0.3 S)	19.2 kA
RATED SHORT-TIME WITHSTAND CURRENT (T = 1 S)	19.2 kA
SHORT-CIRCUIT RELEASE DELAYED SETTING - MAX	12500 A
SHORT-CIRCUIT RELEASE DELAYED SETTING - MIN	1260 A
SHORT-CIRCUIT RELEASE NON-DELAYED SETTING - MAX	18750 A
SHORT-CIRCUIT RELEASE NON-DELAYED SETTING - MIN	2500 A
TERMINAL CAPACITY (CONTROL CABLE)	0.75 mm ² - 1.5 mm ² (2x) 0.75 mm ² - 2.5 mm ² (1x)
TERMINAL CAPACITY (COPPER BUSBAR)	Min. 25 mm x 5 mm direct at switch rear-side connection Min. 60 mm x 10 mm at rear-side width extension Max. 80 mm x 10 mm (2x) at rear-side width extension 50 mm x 10 mm (2x) at rear-side 2-hole module plate M10 at rear-side screw connection Max. 50 mm x 10 mm (2x) at rear-side 1-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
TERMINAL CAPACITY (COPPER SOLID CONDUCTOR/CABLE)	120 mm ² - 300 mm ² (1x) at rear-side 1-hole module plate 35 mm ² - 185 mm ² (4x) at rear-side 2-hole module plate 95 mm ² - 185 mm ² (2x) at rear-side 2-hole module plate

	95 mm ² - 240 mm ² (6x) at rear-side width extension 95 mm ² - 300 mm ² (2x) at rear-side 1-hole module plate 300 mm ² (4x) at rear-side width extension 50 mm ² - 240 mm ² (4x) at 4-hole tunnel terminal
TERMINAL CAPACITY (COPPER STRANDED CONDUCTOR/CABLE)	120 mm ² - 185 mm ² (1x) direct at switch rear-side connection 50 mm ² - 185 mm ² (4x) direct at switch rear-side connection
TERMINAL CAPACITY (ALUMINUM STRANDED CONDUCTOR/CABLE)	50 mm ² - 240 mm ² (4x) at 4-hole tunnel terminal
HANDLE TYPE	Rocker lever
SHORT DELAY CURRENT SETTING (ISD) - MAX	10 A
SHORT DELAY CURRENT SETTING (ISD) - MIN	2 A
INSTANTANEOUS CURRENT SETTING (II) - MAX	37500 A
INSTANTANEOUS CURRENT SETTING (II) - MIN	2500 A
NUMBER OF OPERATIONS PER HOUR - MAX	60
OVERLOAD CURRENT SETTING (IR) - MAX	1250 A
OVERLOAD CURRENT SETTING (IR) - MIN	630 A
RATED SHORT-CIRCUIT BREAKING CAPACITY ICS (IEC/EN 60947) AT 230 V, 50/60 Hz	63 kA
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	37 kA

**(IEC/EN 60947) AT 690 V,
50/60 Hz**

**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

PROJECT NAME:

PROJECT NUMBER:

PREPARED BY:

DATE:



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