

Specifications



Photo is representative



Eaton 189641

NZMN4-4-PX630/VAR. NZM4 PXR25 circuit breaker - integrated energy measurement class 1, 630A, 4p, variable, Screw terminal

General specifications

PRODUCT NAME	Eaton Moeller series NZM
	- Molded case circuit breaker
CATALOG NUMBER	189641
MODEL CODE	NZMN4-4-PX630/VAR
EAN	4015081875887
PRODUCT LENGTH/DEPTH	375 mm
PRODUCT HEIGHT	170 mm
PRODUCT WIDTH	280 mm
PRODUCT WEIGHT	25.5 kg
CERTIFICATIONS	IEC
	IEC/EN 60947

Additional information

FUNCTIONS

Systems, cable, selectivity
and generator protection

Delivery programme

AMPERAGE RATING 630 A

APPLICATION Use in unearthed supply
systems at 525 V

**CIRCUIT BREAKER FRAME
TYPE** NZM4

FEATURES Protection unit
Motor drive optional

NUMBER OF POLES Four-pole

RELEASE SYSTEM Electronic release

SPECIAL FEATURES

- 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: 630 A

TYPE Circuit breaker

Design verification to IEC/EN 61439

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.
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	Does not apply, since the

Design verification to IEC/EN 61439 - technical data

AMBIENT OPERATING TEMPERATURE - MAX	70 °C
AMBIENT STORAGE TEMPERATURE - MAX	70 °C
AMBIENT OPERATING TEMPERATURE - MIN	-25 °C
AMBIENT STORAGE TEMPERATURE - MIN	40 °C
EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT	65 W
RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	630 A

AGAINST ELECTRIC SHOCK	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.

Technical data - electrical

AMPERAGE RATING	630 A
CURRENT RATING OF NEUTRAL CONDUCTOR	0 - 60% - 100% of phase conductor
DIRECTION OF INCOMING SUPPLY	As required
ELECTRICAL CONNECTION TYPE OF MAIN CIRCUIT	Screw connection
HANDLE TYPE	Rocker lever
INSTANTANEOUS CURRENT SETTING (II) - MAX	15120 A
INSTANTANEOUS CURRENT SETTING (II) - MIN	1260 A
ISOLATION	500 V AC (between auxiliary contacts and main contacts) 300 V AC (between the auxiliary contacts)
LIFESPAN, ELECTRICAL	2000 operations at 690 V AC-1 3000 operations at 400 V AC-1 3000 operations at 415 V AC-1
NUMBER OF OPERATIONS PER HOUR - MAX	60
OVERLOAD CURRENT SETTING (IR) - MAX	630 A
OVERLOAD CURRENT SETTING (IR) - MIN	252 A
OVERVOLTAGE CATEGORY	III
POLLUTION DEGREE	3
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
RATED SHORT-CIRCUIT BREAKING CAPACITY ICS (IEC/EN 60947) AT 230 V, 50/60 HZ	37 kA

Technical data - mechanical

CLIMATIC PROOFING	Damp heat, cyclic, to IEC 60068-2-30 Damp heat, constant, to IEC 60068-2-78
DEGREE OF PROTECTION	IP20 (basic degree of protection, in the operating controls area) IP20
DEGREE OF PROTECTION (IP), FRONT SIDE	IP40 (with insulating surround) IP66 (with door coupling rotary handle)
DEGREE OF PROTECTION (TERMINATIONS)	IP10 (tunnel terminal) IP00 (terminations, phase isolator and strip terminal)
LIFESPAN, MECHANICAL	10000 operations
MOUNTING METHOD	Built-in device fixed built-in technique Fixed
NUMBER OF AUXILIARY CONTACTS (CHANGE-OVER CONTACTS)	0
NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS)	0
NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS)	0
POSITION OF CONNECTION FOR MAIN CURRENT CIRCUIT	Front side
PROTECTION AGAINST DIRECT CONTACT	Finger and back-of-hand proof to DIN EN 50274/VDE 0106 part 110
SHOCK RESISTANCE	15 g (half-sinusoidal shock 11 ms)
SPECIAL FEATURES	• 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

RATED SHORT-CIRCUIT BREAKING CAPACITY ICS (IEC/EN 60947) AT 400/415 V, 50/60 HZ	37 kA
RATED SHORT-CIRCUIT BREAKING CAPACITY ICS (IEC/EN 60947) AT 440 V, 50/60 HZ	26 kA
RATED SHORT-CIRCUIT BREAKING CAPACITY ICS (IEC/EN 60947) AT 525 V, 50/60 HZ	19 kA
RATED SHORT-CIRCUIT BREAKING CAPACITY ICS (IEC/EN 60947) AT 690 V, 50/60 HZ	15 kA
RATED SHORT-CIRCUIT MAKING CAPACITY ICM AT 240 V, 50/60 HZ	105 kA
RATED SHORT-CIRCUIT MAKING CAPACITY ICM AT 400/415 V, 50/60 HZ	105 kA
RATED SHORT-CIRCUIT MAKING CAPACITY ICM AT 440 V, 50/60 HZ	74 kA
RATED SHORT-CIRCUIT MAKING CAPACITY ICM AT 525 V, 50/60 HZ	53 kA
RATED SHORT-CIRCUIT MAKING CAPACITY ICM AT 690 V, 50/60 HZ	40 kA
RATED SHORT-TIME WITHSTAND CURRENT (T = 0.3 S)	12 kA
RATED SHORT-TIME WITHSTAND CURRENT (T = 1 S)	12 kA
SHORT DELAY CURRENT SETTING (ISD) - MAX	10 A
SHORT DELAY CURRENT SETTING (ISD) - MIN	2 A
SHORT-CIRCUIT RELEASE DELAYED SETTING - MAX	6300 A
SHORT-CIRCUIT RELEASE DELAYED SETTING - MIN	504 A
SHORT-CIRCUIT RELEASE NON-DELAYED SETTING - MAX	11340 A
SHORT-CIRCUIT RELEASE NON-DELAYED SETTING - MIN	1260 A
SHORT-CIRCUIT TOTAL BREAKTIME	< 25 ms ($\leq$ 415 V); < 35 ms (> 415 V)

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 Icn)
- Rated current = rated uninterrupted current: 630 A

UTILIZATION CATEGORY	B (IEC/EN 60947-2)
VOLTAGE RATING	690 V - 690 V

Technical data - mechanical - terminals

OPTIONAL TERMINALS	Connection on rear. Strip terminal. Tunnel terminal
STANDARD TERMINALS	Screw terminal
TERMINAL CAPACITY (ALUMINUM STRANDED CONDUCTOR/CABLE)	50 mm ² - 240 mm ² (4x) at 4-hole tunnel terminal
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)	M10 at rear-side screw connection Min. 25 mm x 5 mm at rear-side 1-hole module plate 50 mm x 10 mm (2x) at rear-side 2-hole module plate Min. 25 mm x 5 mm direct at switch rear-side connection Max. 50 mm x 10 mm (2x) direct at switch rear-side connection Max. 50 mm x 10 mm (2x) at rear-side 1-hole module plate Max. 80 mm x 10 mm (2x) at rear-side width extension Min. 60 mm x 10 mm at rear-side width extension
TERMINAL CAPACITY (COPPER SOLID CONDUCTOR/CABLE)	95 mm ² - 240 mm ² (6x) at rear-side width extension 120 mm ² - 300 mm ² (1x) at rear-side 1-hole module plate 50 mm ² - 240 mm ² (4x) at 4-hole tunnel terminal 300 mm ² (4x) at rear-side width extension 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 - 300 mm ² (2x) at rear-side 1-hole module plate
TERMINAL CAPACITY (COPPER STRANDED CONDUCTOR/CABLE)	50 mm ² - 185 mm ² (4x) direct at switch rear-side connection 120 mm ² - 185 mm ² (1x) direct at switch rear-side connection
TERMINAL CAPACITY	Max. 10 segments of 50

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
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 DA-CS-nzm4 4p
MCAD MODEL	eaton-molded-case-switches-mcad-drawings-nzm4-4p.dwg
PEP ECO-PASSPORT	eaton-molded-case-switches-pep-eato-00230-v0101-en.pdf
TECHNICAL DATA SHEETS	eaton-nzm-technical-information-sheet

(COPPER STRIP)	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 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) 10 segments of 50 mm x 1 mm (2x) at 1-hole module plate
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PROJECT NAME:	
PROJECT NUMBER:	
PREPARED BY:	
DATE:	



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