

Specifications



Photo is representative



Eaton 192159

Eaton Moeller series NZM - Molded Case Circuit Breaker. NZM2 PXR25, class 1, 250A, 3p, Screw terminal, earth-fault protection and zone selectivity, H, 2

General specifications

PRODUCT NAME	Eaton Moeller series NZM molded case circuit breaker electronic
CATALOG NUMBER	192159
MODEL CODE	NZMH2-PX250-TZ
EAN	4015081927104
PRODUCT LENGTH/DEPTH	190 mm
PRODUCT HEIGHT	160 mm
PRODUCT WIDTH	115 mm
PRODUCT WEIGHT	2.4 kg
COMPLIANCES	RoHS conform
CERTIFICATIONS	IEC/EN 60947 IEC
GLOBAL CATALOG	192159

Product specifications

AMPERAGE RATING	250 A
VOLTAGE RATING	690 V - 690 V
CIRCUIT BREAKER FRAME TYPE	NZM2
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

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](#)

[eaton-circuit-breaker-nzm-mccb-characteristic-curve-010.eps](#)

CHARACTERISTIC CURVE

[eaton-circuit-breaker-nzm-mccb-characteristic-curve-014.eps](#)

DECLARATIONS OF CONFORMITY

[eaton-molded-case-circuit-breaker-declaration-of-conformity-eu250291en.pdf](#)

DRAWINGS

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

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

INSTALLATION INSTRUCTIONS

[eaton-circuit-breakers-nzmb-nzmn-basic-unit-bg2-instruction-leaflet-il012099zu.pdf](#)

INSTALLATION VIDEOS

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

[The new digital NZM Range](#)

MCAD MODEL

[DA-CS-nzm2_3p](#)

[DA-CD-nzm2_3p](#)

TECHNICAL DATA SHEETS

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

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 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	Fixed DIN rail (top hat rail) mounting optional Built-in device fixed built-in technique
CLIMATIC PROOFING	Damp heat, cyclic, to IEC 60068-2-30 Damp heat, constant, to IEC 60068-2-78
EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT	51.56 W
UTILIZATION CATEGORY	A (IEC/EN 60947-2)
ISOLATION	500 V AC (between auxiliary contacts and main contacts) 300 V AC (between the auxiliary contacts)
AMBIENT OPERATING TEMPERATURE - MAX	70 °C
AMBIENT OPERATING	-25 °C

TEMPERATURE - MIN	
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
LIFESPAN, MECHANICAL	20000 operations
OVERTVOLTAGE CATEGORY	III
DEGREE OF PROTECTION (IP), FRONT SIDE	IP40 (with insulating surround) IP66 (with door coupling rotary handle)
DEGREE OF PROTECTION (TERMINATIONS)	IP00 (terminations, phase isolator and strip terminal) IP10 (tunnel terminal)
NUMBER OF POLES	Three-pole
TERMINAL CAPACITY (COPPER STRIP)	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 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
LIFESPAN, ELECTRICAL	10000 operations at 400 V AC-1 7500 operations at 690 V AC-1 10000 operations at 415 V AC-1
FUNCTIONS	Integrated earth fault protection Zone selectivity Earth-fault protection Systems, cable, selectivity and generator protection
EARTH-FAULT CURRENT SETTING (IG) - MAX	$250 \times I_n$
TYPE	Circuit breaker
SPECIAL FEATURES	<ul style="list-style-type: none"> • LSIG overload protection and delayed and non-delayed short-circuit protective device, earth-fault protection • 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 • Zone selectivity ZSI • 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: 250 A

APPLICATION	Use in unearthed supply systems at 690 V
SHOCK RESISTANCE	20 g (half-sinusoidal shock 20 ms)
EARTH-FAULT CURRENT SETTING (IG) - MIN	50 x In
POSITION OF CONNECTION FOR MAIN CURRENT CIRCUIT	Front side
RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	250 A
POWER LOSS	51.56 W
RELEASE SYSTEM	Electronic release
SHORT-CIRCUIT TOTAL BREAKTIME	< 10 ms
RATED SHORT-TIME WITHSTAND CURRENT (T = 0.3 S)	1.9 kA
RATED SHORT-TIME WITHSTAND CURRENT (T = 1 S)	1.9 kA
SHORT-CIRCUIT RELEASE DELAYED SETTING - MAX	2500 A
SHORT-CIRCUIT RELEASE DELAYED SETTING - MIN	200 A
SHORT-CIRCUIT RELEASE NON-DELAYED SETTING - MAX	3000 A
SHORT-CIRCUIT RELEASE NON-DELAYED SETTING - MIN	500 A
TERMINAL CAPACITY (CONTROL CABLE)	0.75 mm ² - 2.5 mm ² (1x) 0.75 mm ² - 1.5 mm ² (2x)
TERMINAL CAPACITY (COPPER BUSBAR)	M8 at rear-side screw connection Max. 24 mm x 8 mm direct at switch rear-side connection Min. 16 mm x 5 mm direct at switch rear-side

	connection
TERMINAL CAPACITY (COPPER SOLID CONDUCTOR/CABLE)	<p>10 mm² - 16 mm² (1x) at box terminal</p> <p>16 mm² (1x) at tunnel terminal</p> <p>6 mm² - 16 mm² (2x) at box terminal</p> <p>10 mm² - 16 mm² (1x) direct at switch rear-side connection</p> <p>6 mm² - 16 mm² (2x) direct at switch rear-side connection</p>
TERMINAL CAPACITY (ALUMINUM SOLID CONDUCTOR/CABLE)	16 mm ² (1x) at tunnel terminal
TERMINAL CAPACITY (COPPER STRANDED CONDUCTOR/CABLE)	<p>25 mm² - 185 mm² (1x) at box terminal</p> <p>25 mm² - 185 mm² (1x) direct at switch rear-side connection</p> <p>25 mm² - 70 mm² (2x) direct at switch rear-side connection</p> <p>25 mm² - 70 mm² (2x) at box terminal</p> <p>25 mm² - 185 mm² (1x) at 1-hole tunnel terminal</p>
TERMINAL CAPACITY (ALUMINUM STRANDED CONDUCTOR/CABLE)	25 mm ² - 185 mm ² (1x) at 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	12 A
INSTANTANEOUS CURRENT SETTING (II) - MIN	2 A
NUMBER OF OPERATIONS PER HOUR - MAX	120
OVERLOAD CURRENT SETTING (IR) - MAX	250 A
OVERLOAD CURRENT SETTING (IR) - MIN	100 A
RATED SHORT-CIRCUIT BREAKING CAPACITY ICS	150 kA

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

**RATED SHORT-CIRCUIT
BREAKING CAPACITY ICS** 150 kA
**(IEC/EN 60947) AT
400/415 V, 50/60 Hz**

**RATED SHORT-CIRCUIT
BREAKING CAPACITY ICS** 130 kA
**(IEC/EN 60947) AT 440 V,
50/60 Hz**

**RATED SHORT-CIRCUIT
BREAKING CAPACITY ICS** 37.5 kA
**(IEC/EN 60947) AT 525 V,
50/60 Hz**

**RATED SHORT-CIRCUIT
BREAKING CAPACITY ICS** 5 kA
**(IEC/EN 60947) AT 690 V,
50/60 Hz**

**RATED SHORT-CIRCUIT
MAKING CAPACITY ICM** 330 kA
AT 400/415 V, 50/60 Hz

**RATED SHORT-CIRCUIT
MAKING CAPACITY ICM** 286 kA
AT 440 V, 50/60 Hz

**RATED SHORT-CIRCUIT
MAKING CAPACITY ICM** 110 kA
AT 525 V, 50/60 Hz

**RATED SHORT-CIRCUIT
MAKING CAPACITY ICM** 40 kA
AT 690 V, 50/60 Hz

STANDARD TERMINALS Screw terminal

OPTIONAL TERMINALS Box terminal. Connection
on rear. Tunnel terminal

**RATED SHORT-CIRCUIT
MAKING CAPACITY ICM** 330 kA
AT 240 V, 50/60 Hz

**RATED IMPULSE
WITHSTAND VOLTAGE** 6000 V
**(UIMP) AT AUXILIARY
CONTACTS**

**RATED IMPULSE
WITHSTAND VOLTAGE** 8000 V
**(UIMP) AT MAIN
CONTACTS**

**RATED INSULATION
VOLTAGE (UI)** 690 V AC

PROJECT NAME:

PROJECT NUMBER:

PREPARED BY:

DATE:



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