

Specifications



Photo is representative



Eaton 259126

Eaton Moeller series NZM - Molded Case Circuit Breaker. Circuit-breaker, 3p, 160A, H2-VE160

General specifications

PRODUCT NAME	Eaton Moeller series NZM molded case circuit breaker electronic
CATALOG NUMBER	259126
MODEL CODE	NZMH2-VE160
EAN	4015082591267
PRODUCT LENGTH/DEPTH	149 mm
PRODUCT HEIGHT	184 mm
PRODUCT WIDTH	105 mm
PRODUCT WEIGHT	2.467 kg
COMPLIANCES	RoHS conform
CERTIFICATIONS	IEC IEC/EN 60947
GLOBAL CATALOG	259126

Product specifications

AMPERAGE RATING	160 A
VOLTAGE RATING	690 V - 690 V
CIRCUIT BREAKER FRAME TYPE	NZM2
FEATURES	Motor drive optional Protection unit
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-characteristic-power-defense-mccb-characteristic-curve-037.eps](#)

CHARACTERISTIC CURVE

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

[eaton-circuit-breaker-nzm-mccb-characteristic-curve-054.eps](#)

DECLARATIONS OF CONFORMITY

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

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

DRAWINGS

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

[eaton-circuit-breaker-switch-nzm-mccb-3d-drawing.eps](#)

ECAD MODEL

[ETN.259126.edz](#)

INSTALLATION INSTRUCTIONS

[eaton-circuit-breakers-basic-device-nzm2-il01206006z.pdf](#)

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-00195-v0101-en.pdf](#)

	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	DIN rail (top hat rail) mounting optional 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	21.12 W
UTILIZATION CATEGORY	A (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	-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	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	Three-pole
TERMINAL CAPACITY (COPPER STRIP)	Min. 2 segments of 16 mm x 0.8 mm at rear-side connection (punched) 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. 10 segments of 16 mm x 0.8 mm at box terminal Max. 8 segments of 24

	mm x 1 mm (2x) at box terminal
LIFESPAN, ELECTRICAL	6500 operations at 415 V AC-3 10000 operations at 400 V AC-1 6500 operations at 400 V AC-3 7500 operations at 690 V AC-1 10000 operations at 415 V AC-1 5000 operations at 690 V AC-3
FUNCTIONS	Systems, cable, selectivity and generator protection
TYPE	Circuit breaker
SPECIAL FEATURES	<ul style="list-style-type: none"> • 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) • R.m.s. value measurement and "thermal memory" • Adjustable time delay setting to overcome current peaks tr at $6 \times Ir$ also infinity (without overload releases) • Adjustable delay time tsd • i^2t constant function: fixed OFF • Rated current = rated uninterrupted current: 160 A
APPLICATION	Use in unearthing supply systems at 690 V
SHOCK RESISTANCE	20 g (half-sinusoidal shock 20 ms)
POSITION OF	Front side

**CONNECTION FOR MAIN
CURRENT CIRCUIT**

RATED OPERATIONAL

**CURRENT FOR SPECIFIED
HEAT DISSIPATION (IN)** 160 A

POWER LOSS 21.12 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** 1600 A

**SHORT-CIRCUIT RELEASE
DELAYED SETTING - MIN** 160 A

**SHORT-CIRCUIT RELEASE
NON-DELAYED SETTING -
MAX** 1920 A

**SHORT-CIRCUIT RELEASE
NON-DELAYED SETTING -
MIN** 1920 A

**TERMINAL CAPACITY
(CONTROL CABLE)** 0.75 mm² - 1.5 mm² (2x)
0.75 mm² - 2.5 mm² (1x)

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

16 mm² (1x) at tunnel
terminal
10 mm² - 16 mm² (1x)
direct at switch rear-side
connection

**TERMINAL CAPACITY
(COPPER SOLID
CONDUCTOR/CABLE)** 10 mm² - 16 mm² (1x) at
box terminal
6 mm² - 16 mm² (2x) direct
at switch rear-side
connection
6 mm² - 16 mm² (2x) at
box terminal

**TERMINAL CAPACITY
(ALUMINUM SOLID
CONDUCTOR/CABLE)** 10 mm² - 16 mm² (2x)
direct at switch rear-side
connection
10 mm² - 16 mm² (1x)

	direct at switch rear-side connection 16 mm ² (1x) at tunnel terminal
TERMINAL CAPACITY (COPPER STRANDED CONDUCTOR/CABLE)	25 mm ² - 70 mm ² (2x) at box terminal 25 mm ² - 185 mm ² (1x) direct at switch rear-side connection 25 mm ² - 185 mm ² (1x) at 1-hole tunnel terminal 25 mm ² - 70 mm ² (2x) direct at switch rear-side connection 25 mm ² - 185 mm ² (1x) at box terminal
TERMINAL CAPACITY (ALUMINUM STRANDED CONDUCTOR/CABLE)	25 mm ² - 50 mm ² (1x) direct at switch rear-side connection 25 mm ² - 185 mm ² (1x) at tunnel terminal 25 mm ² - 50 mm ² (2x) direct at switch rear-side connection
HANDLE TYPE	Rocker lever
SHORT DELAY CURRENT SETTING (ISD) - MAX	1600 A
SHORT DELAY CURRENT SETTING (ISD) - MIN	160 A
INSTANTANEOUS CURRENT SETTING (II) - MAX	1920 A
INSTANTANEOUS CURRENT SETTING (II) - MIN	1920 A
NUMBER OF OPERATIONS PER HOUR - MAX	120
OVERLOAD CURRENT SETTING (IR) - MAX	160 A
OVERLOAD CURRENT SETTING (IR) - MIN	80 A
RATED SHORT-CIRCUIT BREAKING CAPACITY ICS (IEC/EN 60947) AT 230 V, 50/60 HZ	150 kA
RATED SHORT-CIRCUIT BREAKING CAPACITY ICS (IEC/EN 60947) AT 400/415 V, 50/60 HZ	150 kA
RATED SHORT-CIRCUIT	130 kA

BREAKING CAPACITY ICS**(IEC/EN 60947) AT 440 V,****50/60 HZ****RATED SHORT-CIRCUIT****BREAKING CAPACITY ICS****(IEC/EN 60947) AT 525 V,****50/60 HZ**

37.5 kA

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

5 kA

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**

105 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 TERMINALSBox terminal. Connection
on rear. Tunnel terminal**RATED SHORT-CIRCUIT****MAKING CAPACITY ICM**

330 kA

AT 240 V, 50/60 HZ**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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