

Specifications



Photo is representative



Eaton 103048

Eaton Moeller series NZM - Molded Case Circuit Breaker. Circuit-breaker, 3p, 12A, short-circuit protective device

General specifications

PRODUCT NAME	Eaton Moeller series NZM - Molded case circuit breaker
CATALOG NUMBER	103048
MODEL CODE	NZMH2-S12-CNA
EAN	4015081028870
PRODUCT LENGTH/DEPTH	149 mm
PRODUCT HEIGHT	195 mm
PRODUCT WIDTH	105 mm
PRODUCT WEIGHT	2.345 kg
COMPLIANCES	RoHS conform
CERTIFICATIONS	CSA-C22.2 No. 5-09 UL/CSA UL 489 Specially designed for North America CSA (Class No. 1432-01) UL (Category Control Number DKPU2) CSA (File No. 22086) CSA certified UL listed UL (File No. E31593)
GLOBAL CATALOG	103048

Product specifications

AMPERAGE RATING	12 A
VOLTAGE RATING	690 V - 690 V
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	Does not apply, since the

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](#)

CHARACTERISTIC CURVE

[eaton-circuit-breaker-nzm-mccb-characteristic-curve-052.eps](#)

DECLARATIONS OF CONFORMITY

[eaton-molded-case-circuit-breaker-declaration-of-conformity-eu250290en.pdf](#)

DRAWINGS

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

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

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

INSTALLATION VIDEOS

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

[The new digital NZM Range](#)

MCAD MODEL

[DA-CD-nzm2_3p](#)

[DA-CS-nzm2_3p](#)

TECHNICAL DATA SHEETS

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

PROTECTION OF ASSEMBLIES	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, cyclic, to IEC 60068-2-30 Damp heat, constant, to IEC 60068-2-78
EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT	0.52 W
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
PROTECTION AGAINST DIRECT CONTACT	Finger and back-of-hand proof to VDE 0106 part

	100
RATED INSULATION VOLTAGE (UI)	1000 V
RATED OPERATING POWER AT AC-3, 230 V	3 kW
RATED OPERATING POWER AT AC-3, 400 V	5.5 kW
SWITCH OFF TECHNIQUE	Magnetic
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)	Max. 10 segments of 16 mm x 0.8 mm at box terminal 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 16 mm x 0.8 mm at rear-side connection (punched)
LIFESPAN, ELECTRICAL	10000 operations at 400 V AC-1 7500 operations at 690 V AC-1 6500 operations at 415 V AC-3 5000 operations at 690 V AC-3 6500 operations at 400 V AC-3

FUNCTIONS	Short-circuit protection
TYPE	Circuit breaker
SPECIAL FEATURES	<ul style="list-style-type: none"> Rated current = rated uninterrupted current: 12 A This circuit-breaker is only allowed to be used for UL/CSA applications. Motor protection in conjunction with contactor and overload relay With short-circuit release Without overload release Ir
APPLICATION	Branch circuits, feeder circuits
SHOCK RESISTANCE	20 g (half-sinusoidal shock 20 ms)
RATED OPERATIONAL	
CURRENT FOR SPECIFIED	12 A
HEAT DISSIPATION (IN)	
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	
NON-DELAYED SETTING - MAX	144 A
SHORT-CIRCUIT RELEASE	
NON-DELAYED SETTING - MIN	84 A
HANDLE TYPE	Rocker lever
INSTANTANEOUS	
CURRENT SETTING (II) - MAX	144 A
INSTANTANEOUS	
CURRENT SETTING (II) - MIN	84 A
NUMBER OF	
OPERATIONS PER HOUR - MAX	120
OVERLOAD CURRENT SETTING (IR) - MAX	0 A

OVERLOAD CURRENT SETTING (IR) - MIN	0 A
RATED SHORT-CIRCUIT BREAKING CAPACITY ICS (IEC/EN 60947) AT 400/415 V, 50/60 HZ	150 kA
RATED SHORT-CIRCUIT BREAKING CAPACITY ICS (IEC/EN 60947) AT 440 V, 50/60 HZ	150 kA
STANDARD TERMINALS	Screw terminal
RATED OPERATING VOLTAGE UE (UL) - MAX	600 Y / 347 V, 480 V
RELEASE SYSTEM	Thermomagnetic release
SHORT-CIRCUIT TOTAL BREAKTIME	< 10 ms
TERMINAL CAPACITY (ALUMINUM SOLID CONDUCTOR/CABLE)	16 mm ² (1x) at tunnel terminal
TERMINAL CAPACITY (CONTROL CABLE)	16 mm ² - 18 mm ² (2x) 14 mm ² - 18 mm ² (1x)
TERMINAL CAPACITY (COPPER BUSBAR)	M8 at rear-side screw connection Max. 20 mm x 5 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)	6 mm ² (1x) at tunnel terminal 6 mm ² - 11 mm ² (1x) direct at switch rear-side connection 6 mm ² - 12 mm ² (1x) at box terminal
TERMINAL CAPACITY (COPPER STRANDED CONDUCTOR/CABLE)	4 mm ² - 3/0 mm ² (1x) direct at switch rear-side connection 4 mm ² - 350 mm ² (1x) at tunnel terminal 4 mm ² - 350 mm ² (1x) at box terminal
RATED SHORT-CIRCUIT BREAKING CAPACITY ICU (IEC/EN 60947) AT 400/415 V, 50/60 HZ	150 kA
RATED IMPULSE WITHSTAND VOLTAGE (UIMP) AT AUXILIARY CONTACTS	6000 V

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

8000 V

PROJECT NAME:

PROJECT NUMBER:

PREPARED BY:

DATE:



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