

Specifications



Photo is representative

Eaton 103020

Eaton Moeller series NZM - Molded Case Circuit Breaker. Circuit-breaker, 3p, 8A, B1-S8-CNA

General specifications

PRODUCT NAME	Eaton Moeller series NZM - Molded case circuit breaker
CATALOG NUMBER	103020
MODEL CODE	NZMB1-S8-CNA
EAN	4015081027590
PRODUCT LENGTH/DEPTH	88 mm
PRODUCT HEIGHT	165.5 mm
PRODUCT WIDTH	90 mm
PRODUCT WEIGHT	1.046 kg
COMPLIANCES	RoHS conform
CERTIFICATIONS	CSA (File No. 22086) UL 489 UL/CSA UL (File No. E31593) Specially designed for North America CSA certified CSA (Class No. 1432-01) UL (Category Control Number DKPU2) CSA-C22.2 No. 5-09 UL listed
GLOBAL CATALOG	103020

Product specifications

AMPERAGE RATING	8 A
VOLTAGE RATING	440 V - 440 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-digital-nzm-brochure-br013003en-en-us.pdf eaton-feerum-the-whole-grain-solution-success-story-en-us.pdf
CATALOGS	eaton-digital-nzm-catalog-ca013003en-en-us.pdf eaton-circuit-breaker-characteristic-power-defense-mccb-characteristic-curve-038.eps
CHARACTERISTIC CURVE	eaton-circuit-breaker-nzm-mccb-characteristic-curve-058.eps eaton-circuit-breaker-characteristic-power-defense-mccb-characteristic-curve-032.eps
DECLARATIONS OF CONFORMITY	eaton-molded-case-circuit-breaker-declaration-of-conformity-eu250289en.pdf eaton-circuit-breaker-switch-nzm-mccb-dimensions-014.eps
DRAWINGS	eaton-circuit-breaker-nzm-mccb-dimensions-017.eps eaton-circuit-breaker-switch-nzm-mccb-3d-drawing-006.eps
ECAD MODEL	ETN.103020.edz
INSTALLATION INSTRUCTIONS	eaton-circuit-breaker-switch-disconnector-nzmb-il01203004z.pdf
INSTALLATION VIDEOS	The new digital NZM Range Introduction of the new digital circuit breaker NZM
MCAD MODEL	eaton-molded-case-switches-mcad-3d-models-nzm1-3p-na-cna.stp DA-CS-nzm1_3p

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, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30
EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT	1.76 W
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 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

[DA-CD-nzm1_3p](#)

[eaton-molded-case-switches-mcad-drawings-nzm1-3p-na-cna.dwg](#)

TECHNICAL DATA SHEETS

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

	100
RATED INSULATION VOLTAGE (UI)	690 V
RATED OPERATING POWER AT AC-3, 230 V	1.5 kW
RATED OPERATING POWER AT AC-3, 400 V	3 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	Other
LIFESPAN, MECHANICAL	20000 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	Three-pole
TERMINAL CAPACITY (COPPER STRIP)	Max. 9 segments of 9 mm x 0.8 mm at box terminal Min. 2 segments of 9 mm x 0.8 mm at box terminal
LIFESPAN, ELECTRICAL	7500 operations at 415 V AC-3
FUNCTIONS	Short-circuit protection
TYPE	Circuit breaker
SPECIAL FEATURES	- Rated current = rated uninterrupted current: 8 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 I_r
APPLICATION	Branch circuits, feeder circuits
SHOCK RESISTANCE	20 g (half-sinusoidal shock 20 ms)
RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	8 A
SHORT-CIRCUIT RELEASE NON-DELAYED SETTING - MAX	88 A
SHORT-CIRCUIT RELEASE NON-DELAYED SETTING - MIN	48 A
HANDLE TYPE	Rocker lever
INSTANTANEOUS CURRENT SETTING (II) - MAX	88 A
INSTANTANEOUS CURRENT SETTING (II) - MIN	48 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	25 kA
RATED SHORT-CIRCUIT BREAKING CAPACITY ICS (IEC/EN 60947) AT 440 V, 50/60 HZ	25 kA
STANDARD TERMINALS	Box terminal
RATED OPERATING VOLTAGE UE (UL) - MAX	480 Y / 277 V
RELEASE SYSTEM	Thermomagnetic release
SHORT-CIRCUIT TOTAL BREAKTIME	< 10 ms
TERMINAL CAPACITY (ALUMINUM SOLID)	16 mm ² (1x) at tunnel terminal

CONDUCTOR/CABLE)	
TERMINAL CAPACITY (CONTROL CABLE)	14 mm ² - 18 mm ² (1x) 16 mm ² - 18 mm ² (2x)
TERMINAL CAPACITY (COPPER BUSBAR)	M6 at rear-side screw connection Max. 16 mm x 5 mm direct at switch rear-side connection Min. 12 mm x 5 mm direct at switch rear-side connection
TERMINAL CAPACITY (COPPER SOLID CONDUCTOR/CABLE)	6 mm ² - 9 mm ² (2x) direct at switch rear-side connection 6 mm ² (1x) at tunnel terminal 6 mm ² - 12 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 - 2/0 mm ² (1x) at box terminal 4 mm ² - 3/0 mm ² (1x) at tunnel terminal 4 mm ² - 2/0 mm ² (1x) direct at switch rear-side connection
RATED SHORT-CIRCUIT BREAKING CAPACITY ICU (IEC/EN 60947) AT 400/415 V, 50/60 HZ	25 kA
RATED IMPULSE WITHSTAND VOLTAGE (UIMP) AT AUXILIARY CONTACTS	6000 V
RATED IMPULSE WITHSTAND VOLTAGE (UIMP) AT MAIN CONTACTS	6000 V
POWER LOSS	1.8 W

PROJECT NAME:
PROJECT NUMBER:
PREPARED BY:
DATE:



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