

Specifications



Photo is representative

Eaton 107780

Eaton Moeller series NZM - Molded Case Circuit Breaker. Circuit-breaker, 3p, 100A, box terminals, B, frame 2, A100-BT-NA

General specifications

PRODUCT NAME	Eaton Moeller series NZM molded case circuit breaker thermo-magnetic
CATALOG NUMBER	107780
MODEL CODE	NZMB2-A100-BT-NA
EAN	4015081074273
PRODUCT LENGTH/DEPTH	149 mm
PRODUCT HEIGHT	195 mm
PRODUCT WIDTH	105 mm
PRODUCT WEIGHT	2.345 kg
COMPLIANCES	RoHS conform
CERTIFICATIONS	Specially designed for North America CE marking UL/CSA IEC/EN 60947 CSA-C22.2 No. 5-09 UL (Category Control Number DIVQ) CSA certified UL 489 IEC UL (File No. E31593) IEC 60947-2 CSA (File No. 22086) UL listed CSA (Class No. 1432-01)
GLOBAL CATALOG	107780

Product specifications

AMPERAGE RATING	100 A
VOLTAGE RATING	440 V - 440 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-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-current-nzm-mccb-characteristic-curve-003.eps](#)

CHARACTERISTIC CURVE

[eaton-circuit-breaker-nzm-mccb-characteristic-curve-038.eps](#)

[eaton-circuit-breaker-nzm-mccb-characteristic-curve-050.eps](#)

DECLARATIONS OF CONFORMITY

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

DRAWINGS

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

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

ECAD MODEL

[ETN.107780.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](#)

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	DIN rail (top hat rail) mounting optional 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	25.65 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
LOW-VOLTAGE HBC FUSE - MAX	355 A gG/gL
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 IP20 (basic degree of protection, in the operating controls area)
DIRECTION OF INCOMING SUPPLY	As required
ELECTRICAL CONNECTION TYPE OF MAIN CIRCUIT	Frame clamp
LIFESPAN, MECHANICAL	20000 operations
OVERVOLTAGE CATEGORY	III
RATED OPERATIONAL CURRENT	300 A (415 V AC-1, making and breaking capacity) 300 A (380/400 V AC-1, making and breaking capacity) 100 A (660-690 V AC-3, making and breaking capacity)
DEGREE OF PROTECTION (IP), FRONT SIDE	IP66 (with door coupling rotary handle) IP40 (with insulating surround)
DEGREE OF PROTECTION (TERMINATIONS)	IP10 (tunnel terminal) IP00 (terminations, phase isolator and strip terminal)
NUMBER OF POLES	Three-pole
TERMINAL CAPACITY (COPPER STRIP)	Min. 2 segments of 9 mm x 0.8 mm at box terminal 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 rear-side connection (punched) Max. 10 segments of 16 mm x 0.8 mm at box terminal
LIFESPAN, ELECTRICAL	6500 operations at 415 V AC-3 7500 operations at 400 V AC-1
FUNCTIONS	Current limiting circuit breaker System and cable 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 I_{cn}) • Rated current = rated uninterrupted current: 100 A • Switches conform to UL/CSA as well as the IEC regulations. IEC switching performance values are contained on the rating plate. • Adjustable overload releases I_r
APPLICATION	<ul style="list-style-type: none"> • Branch circuits, feeder circuits • Use in unearthing supply systems at 440 V
SHOCK RESISTANCE	20 g (half-sinusoidal shock 20 ms)

POSITION OF CONNECTION FOR MAIN CURRENT CIRCUIT	Front side
RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	100 A
POWER LOSS	25.7 W
RELEASE SYSTEM	Thermomagnetic release
SHORT-CIRCUIT TOTAL BREAKTIME	< 10 ms
SHORT-CIRCUIT RELEASE NON-DELAYED SETTING - MAX	1000 A
SHORT-CIRCUIT RELEASE NON-DELAYED SETTING - MIN	600 A
TERMINAL CAPACITY (CONTROL CABLE)	14 mm ² - 18 mm ² (1x) 16 mm ² - 18 mm ² (2x)
	Min. 16 mm x 5 mm direct at switch rear-side connection
TERMINAL CAPACITY (COPPER BUSBAR)	M8 at rear-side screw connection Max. 20 mm x 5 mm direct at switch rear-side connection
TERMINAL CAPACITY (COPPER SOLID CONDUCTOR/CABLE)	16 mm ² (1x) at tunnel terminal 6 mm ² - 12 mm ² (1x) at box terminal 6 mm ² - 11 mm ² (1x) direct at switch rear-side connection
TERMINAL CAPACITY (ALUMINUM SOLID CONDUCTOR/CABLE)	16 mm ² (1x) at tunnel terminal
TERMINAL CAPACITY (COPPER STRANDED CONDUCTOR/CABLE)	4 mm ² - 350 mm ² (1x) at tunnel terminal 4 mm ² - 3/0 mm ² (1x) direct at switch rear-side connection 4 mm ² - 350 mm ² (1x) at box terminal
HANDLE TYPE	Rocker lever
SHORT DELAY CURRENT SETTING (ISD) - MAX	0 A
SHORT DELAY CURRENT SETTING (ISD) - MIN	0 A
INSTANTANEOUS CURRENT SETTING (II) -	1000 A

MAX**INSTANTANEOUS****CURRENT SETTING (II) -** 600 A**MIN****NUMBER OF****OPERATIONS PER HOUR -** 120**MAX****OVERLOAD CURRENT****SETTING (IR) - MAX** 100 A**OVERLOAD CURRENT****SETTING (IR) - MIN** 80 A**RATED SHORT-CIRCUIT****BREAKING CAPACITY ICS****(IEC/EN 60947) AT 230 V,****50/60 HZ**

30 kA

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**

18.5 kA

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

53 kA

RATED SHORT-CIRCUIT**MAKING CAPACITY ICM****AT 440 V, 50/60 HZ**

53 kA

STANDARD TERMINALS

Box terminal

RATED OPERATING**VOLTAGE UE (UL) - MAX**

600Y/347 V, 480 V

RATED SHORT-CIRCUIT**MAKING CAPACITY ICM****AT 240 V, 50/60 HZ**

63 kA

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

6000 V

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

8000 V

RATED INSULATION**VOLTAGE (UI)**

690 V AC

PROJECT NAME:

PROJECT NUMBER:

PREPARED BY:

DATE:



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