

Specifications



Photo is representative



Eaton 153396

Eaton Moeller series NZM - Molded Case Circuit Breaker. Circuit-breaker, 4p, 100A, box terminals, H2-4-AF100-BT-NA

General specifications

PRODUCT NAME	Eaton Moeller series NZM molded case circuit breaker thermo-magnetic
CATALOG NUMBER	153396
MODEL CODE	NZMH2-4-AF100-BT-NA
EAN	4015081501663
PRODUCT LENGTH/DEPTH	149 mm
PRODUCT HEIGHT	206 mm
PRODUCT WIDTH	140 mm
PRODUCT WEIGHT	3.755 kg
COMPLIANCES	RoHS conform
CERTIFICATIONS	CSA-C22.2 No. 5-09 IEC Specially designed for North America CE marking UL (File No. E31593) UL listed UL/CSA IEC/EN 60947 UL 489 UL (Category Control Number DIVQ) IEC 60947-2
GLOBAL CATALOG	153396

Product specifications

AMPERAGE RATING	100 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-current-nzm-mccb-characteristic-curve-005.eps](#)

CHARACTERISTIC CURVE

[eaton-circuit-breaker-nzm-mccb-characteristic-curve-040.eps](#)

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

DECLARATIONS OF CONFORMITY

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

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

DRAWINGS

[eaton-circuit-breaker-nzm-mccb-dimensions-035.eps](#)

[eaton-circuit-breaker-cable-nzm-mccb-3d-drawing-002.eps](#)

INSTALLATION VIDEOS

[The new digital NZM Range](#)

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

MCAD MODEL

[nzmb2_4_af100_bt_na.dwg](#)

[nzmb2_4_af100_bt_na.stp](#)

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 Built-in device fixed built-in technique DIN rail (top hat rail) mounting optional
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
CURRENT RATING OF NEUTRAL CONDUCTOR	200% of phase conductor
LIFESPAN, MECHANICAL	20000 operations
OVERVOLTAGE CATEGORY	III
RATED OPERATIONAL CURRENT	100 A (690 V AC-1, making and breaking capacity)
DEGREE OF PROTECTION (IP), FRONT SIDE	IP40 (with insulating surround) IP66 (with door coupling rotary handle)
DEGREE OF PROTECTION (TERMINATIONS)	IP10 (tunnel terminal) IP00 (terminations, phase isolator and strip terminal)
NUMBER OF POLES	Four-pole
LIFESPAN, ELECTRICAL	10000 operations at 400 V AC-1 5000 operations at 690 V AC-3 6500 operations at 400 V AC-3

	7500 operations at 690 V AC-1
FUNCTIONS	System and cable protection Current limiting circuit breaker
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. • Fixed overload releases I_r
APPLICATION	<ul style="list-style-type: none"> • Branch circuits, feeder circuits • Use in unearthing supply systems at 690 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	< 10 ms

BREAKTIME**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 1000 A

SHORT-CIRCUIT RELEASE

NON-DELAYED SETTING - MIN 600 A

TERMINAL CAPACITY

(ALUMINUM SOLID CONDUCTOR/CABLE) 16 mm² (1x) at tunnel 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) - MAX 10 A

INSTANTANEOUS

CURRENT SETTING (II) - MIN 6 A

NUMBER OF

OPERATIONS PER HOUR - MAX 120

OVERLOAD CURRENT

SETTING (IR) - MAX 100 A

OVERLOAD CURRENT

SETTING (IR) - MIN 100 A

OVERLOAD CURRENT

SETTING (IR) 100 A - 100 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

BREAKING CAPACITY ICS (IEC/EN 60947) AT 440 V, 50/60 Hz 130 kA

RATED SHORT-CIRCUIT

37.5 kA

BREAKING CAPACITY ICS**(IEC/EN 60947) AT 525 V,****50/60 HZ****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**

Box terminal

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

480 V

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:****Eaton Corporation plc**

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