Specifications

Photo is representative

Eaton 271112

Eaton Moeller series NZM - Molded Case Circuit Breaker. Circuit-breaker, 3p, 1000A, N4-AEF1000-NA

General specifications	
PRODUCT NAME	Eaton Moeller series NZM molded case circuit breaker electronic
CATALOG NUMBER	271112
EAN	4015082711122
PRODUCT LENGTH/DEPTH	401 mm
PRODUCT HEIGHT	207 mm
PRODUCT WIDTH	210 mm
PRODUCT WEIGHT	21 kg
COMPLIANCES	RoHS conform
CERTIFICATIONS	CE marking UL listed IEC IEC 60947-2 CSA-C22.2 No. 5-09 IEC/EN 60947 UL/CSA UL (File No. E31593) UL (Category Control Number DIVQ) CSA (File No. 22086) CSA certified CSA (Class No. 1432-01) UL 489 Specially designed for North America
MODEL CODE	NZMN4-AEF1000-NA

Powering Business Worldwide

Product specifications

AMPERAGE RATING	1000 A
VOLTAGE RATING	690 V - 690 V
CIRCUIT BREAKER FRAME TYPE	NZM4
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
CATALOGUES	eaton-digital-nzm-catalog-ca013003en-en-us.pdf
CHARACTERISTIC CURVE	eaton-circuit-breaker-nzm-mccb-characteristic-curve-047.eps
DECLARATIONS OF CONFORMITY	eaton-molded-case-circuit-breaker-declaration-of-conformity-eu250294en.pdf
DRAWINGS	eaton-circuit-breaker-nzm-mccb-dimensions-022.eps eaton-circuit-breaker-switch-nzm-mccb-3d-drawing-003.eps
ECAD MODEL	ETN.271112.edz
INSTALLATION INSTRUCTIONS	eaton-circuit-breaker-basic-unit-nzmn4-il01210010z.pdf
INSTALLATION VIDEOS	Introduction of the new digital circuit breaker NZM The new digital NZM Range
MCAD MODEL	DA-CD-nzm4_3p DA-CS-nzm4_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	Built-in device fixed built-in technique Fixed DIN rail (top hat rail) mounting optional
CLIMATIC PROOFING	Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30
EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT	165 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 TEMPERATURE - MIN	-25 °C
AMBIENT STORAGE TEMPERATURE - MAX	70 °C
AMBIENT STORAGE TEMPERATURE - MIN	40 °C
LOW-VOLTAGE HBC FUSE - MAX	2 x 630 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	Screw connection
LIFESPAN, MECHANICAL	10000 operations
OVERVOLTAGE CATEGORY	III
RATED OPERATIONAL CURRENT	2000 A (380/400 V AC-1, making and breaking capacity) 1000 A (660-690 V AC-3, making and breaking capacity) 1000 A (690 V AC -1, making and breaking capacity) 1600 A (415 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)	IP00 (terminations, phase isolator and strip terminal) IP10 (tunnel terminal)
NUMBER OF POLES	Three-pole

TERMINAL CAPACITY (COPPER STRIP)	Min. 6 segments of 16 mm x 0.8 mm at flat conductor terminal Max. 10 segments of 32 mm x 1 mm (2x) at flat conductor terminal 10 segments of 50 mm x 1 mm (2x) at 1-hole module plate Min. 10 segments of 50 mm x 1 mm (2x) at rear-side connection (punched) Max. 10 segments of 50 mm x 1 mm (2x) at rear-side connection (punched) 10 segments of 80 mm x 1 mm (2x) at rear-side width extension NA: same as for IEC
LIFESPAN, ELECTRICAL	1000 operations at 690 V AC-3 2000 operations at 400 V AC-3 2000 operations at 415 V AC-3 2000 operations at 690 V AC-1 3000 operations at 400 V AC-1
FUNCTIONS	System and cable protection
TYPE	Circuit breaker
SPECIAL FEATURES	• For AC-3 rated operational current with NZM4 the following applies: 400 V: max. 650 kW; 690 V: max. 600 kW (switching capacity, rated making and breaking capacity) • 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) • Rated current =

	rated uninterrupted current: 1000 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 Ir • R.m.s. value measurement and “thermal memory”
APPLICATION	• Branch circuits, feeder circuits • Use in unearthed supply systems at 525 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)	1000 A
RELEASE SYSTEM	Electronic release
SHORT-CIRCUIT TOTAL BREAKTIME	< 25 ms (415 V); < 35 ms (> 415 V)
RATED SHORT-TIME WITHSTAND CURRENT (T = 0.3 S)	19.2 kA
RATED SHORT-TIME WITHSTAND CURRENT (T = 1 S)	19.2 kA
SHORT-CIRCUIT RELEASE NON-DELAYED SETTING - MAX	12000 A
SHORT-CIRCUIT RELEASE NON-DELAYED SETTING - MIN	2000 A
TERMINAL CAPACITY (CONTROL CABLE)	16 mm^2 - 18 mm^2 (2x) 14 mm^2 - 18 mm^2 (1x)
TERMINAL CAPACITY (COPPER BUSBAR)	M10 at rear-side screw connection Min. 25 mm x 5 mm direct at switch rear-side connection

	Max. 50 mm x 10 mm (2x) direct at switch rear-side connection Min. 25 mm x 5 mm at rear-side 1-hole module plate Max. 50 mm x 10 mm (2x) at rear-side 1-hole module plate 50 mm x 10 mm (2x) at rear-side 2-hole module plate Min. 60 mm x 10 mm at rear-side width extension Max. 80 mm x 10 mm (2x) at rear-side width extension NA: same as for IEC
TERMINAL CAPACITY (COPPER STRANDED CONDUCTOR/CABLE)	50 mm^2 - 240 mm^2 (4x) at 4-hole tunnel terminal 120 mm^2 - 185 mm^2 (1x) direct at switch rear-side connection 50 mm^2 - 185 mm^2 (4x) direct at switch rear-side connection Min. 120 mm^2 - 300 mm^2 (1x) at rear-side 1-hole module plate Max. 95 mm^2 - 300 mm^2 (2x) at rear-side 1-hole module plate Min. 95 mm^2 - 185 mm^2 (2x) at rear-side 2-hole module plate Max. 35 mm^2 - 185 mm^2 (4x) at rear-side 2-hole module plate 300 mm^2 (4x) at rear-side width extension 95 mm^2 - 240 mm^2 (6x) at rear-side width extension NA: AWG 0- kcmil 500 (4x) at 4-hole tunnel terminal NA: kcmil 250 - kcmil 350 (1x) direct at switch rear-side connection NA: AWG 0 - kcmil 350 (4x) direct at switch rear-side connection NA: min. kcmil 250 - kcmil 600 (1x) at rear-side 1-hole module plate NA: max. AWG 3/0 - kcmil 600 (2x) at rear-side 1-hole module plate

	NA: min. AWG 3/0 - kcmil 350 (2x) at rear-side 2-hole module plate NA: max. AWG 2 - kcmil 350 (4x) at rear-side 2-hole module plate NA: kcmil 600 (4x) at rear-side width extension NA: AWG 3/0 - kcmil 500 (6x) at rear-side width extension
TERMINAL CAPACITY (ALUMINUM STRANDED CONDUCTOR/CABLE)	Min. 185 mm^2 - 240 mm^2 (1x) at rear-side 1-hole module plate Max. 70 mm^2 - 185 mm^2 (2x) at rear-side 1-hole module plate 50 mm^2 (4x) at rear-side 2-hole module plate 240 mm^2 (2x) at rear-side width extension 70 mm^2 - 240 mm^2 (6x) at rear-side width extension NA: aluminum conductor not applicable
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	12000 A
INSTANTANEOUS CURRENT SETTING (II) - MIN	2000 A
NUMBER OF OPERATIONS PER HOUR - MAX	60
OVERLOAD CURRENT SETTING (IR) - MAX	1000 A
OVERLOAD CURRENT SETTING (IR) - MIN	1000 A
RATED SHORT-CIRCUIT BREAKING CAPACITY ICS (IEC/EN 60947) AT 230 V, 50/60 HZ	37 kA
RATED SHORT-CIRCUIT BREAKING CAPACITY ICS (IEC/EN 60947) AT 400/415 V, 50/60 HZ	37 kA
RATED SHORT-CIRCUIT	26 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	19 kA
RATED SHORT-CIRCUIT BREAKING CAPACITY ICS (IEC/EN 60947) AT 690 V, 50/60 HZ	15 kA
RATED SHORT-CIRCUIT MAKING CAPACITY ICM AT 400/415 V, 50/60 HZ	105 kA
RATED SHORT-CIRCUIT MAKING CAPACITY ICM AT 440 V, 50/60 HZ	74 kA
RATED SHORT-CIRCUIT MAKING CAPACITY ICM AT 525 V, 50/60 HZ	53 kA
RATED SHORT-CIRCUIT MAKING CAPACITY ICM AT 690 V, 50/60 HZ	40 kA
STANDARD TERMINALS	Screw connection,Optional:Tunnel terminal,Rear-side connection,Strip connection
RATED OPERATING VOLTAGE UE (UL) - MAX	600 V
RATED SHORT-CIRCUIT MAKING CAPACITY ICM AT 240 V, 50/60 HZ	105 kA
RATED IMPULSE WITHSTAND VOLTAGE (UIMP) AT AUXILIARY CONTACTS	6000 V
RATED IMPULSE WITHSTAND VOLTAGE (UIMP) AT MAIN CONTACTS	8000 V
RATED SHORT-CIRCUIT BREAKING CAPACITY ICU (IEC/EN 60947) AT 525 V, 50/60 HZ	25 kA
RATED SHORT-CIRCUIT BREAKING CAPACITY ICU (IEC/EN 60947) AT 400/415 V, 50/60 HZ	50 kA
RATED SHORT-CIRCUIT BREAKING CAPACITY	50 kA

ICU (IEC/EN 60947) AT 230 V, 50/60 HZ	
RATED SHORT-CIRCUIT BREAKING CAPACITY ICU (IEC/EN 60947) AT 690 V, 50/60 HZ	20 kA
RATED SHORT-CIRCUIT BREAKING CAPACITY ICU (IEC/EN 60947) AT 440 V, 50/60 HZ	35 kA
RATED INSULATION VOLTAGE (UI)	1000 V AC

PROJECT NAME:	
PROJECT NUMBER:	
PREPARED BY:	
DATE:	

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