Specifications

Photo is representative

Eaton 102686

Eaton Moeller series NZM - Molded Case Circuit Breaker. Molded Case Switch, 3p, 250A

General specifications

PRODUCT NAME	Eaton Moeller series NZM - Molded case circuit breaker
CATALOG NUMBER	102686
MODEL CODE	NS2-250-NA
EAN	4015081025466
PRODUCT LENGTH/DEPTH	142 mm
PRODUCT HEIGHT	185 mm
PRODUCT WIDTH	105 mm
PRODUCT WEIGHT	2.398 kg
COMPLIANCES	RoHS conform
CERTIFICATIONS	UL (File No. E148671) IEC CSA (Class No. 4652-06) UL 489 UL/CSA IEC 60947-2 CE marking CSA certified CSA (File No. 22086) UL (Category Control Number WJAZ) Specially designed for North America UL listed CSA-C22.2 No. 5-09
GLOBAL CATALOG	102686

Powering Business Worldwide

Product specifications

AMPERAGE RATING	250 A
VOLTAGE RATING	690 V - 690 V
CIRCUIT BREAKER FRAME TYPE	N2
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 be evaluated.
10.2.7 INSCRIPTIONS	Meets the product standard's requirements.

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
CHARACTERISTIC CURVE	eaton-circuit-breaker-let-through-current-nzm-mccb-characteristic-curve-005.eps eaton-circuit-breaker-characteristic-power-defense-mccb-characteristic-curve-037.eps
DECLARATIONS OF CONFORMITY	eaton-molded-case-switch-declaration-of-conformity-eu250133en.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
ECAD MODEL	DA-CE-ETN.NS2-250-NA
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-CD-nzm2_3p DA-CS-nzm2_3p
PEP ECO-PASSPORT	eaton-molded-case-switches-pep-eato-00235-v0101-en.pdf
TECHNICAL DATA SHEETS	eaton-nzm-technical-information-sheet

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 DIN rail (top hat rail) mounting optional Built-in device fixed built-in technique
EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT	59.44 W
AMBIENT OPERATING TEMPERATURE - MAX	70 °C
AMBIENT OPERATING TEMPERATURE - MIN	-25 °C
AMBIENT STORAGE TEMPERATURE - MAX	70 °C
AMBIENT STORAGE TEMPERATURE - MIN	-40 °C
RATED CURRENT (IU)	250 A
CURRENT RATING (IU) (UL 489 CSA 22.2 NO. 5.1)	250 A
NUMBER OF AUXILIARY CONTACTS (CHANGE-OVER CONTACTS)	0
NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS)	0
NUMBER OF AUXILIARY	0

CONTACTS (NORMALLY OPEN CONTACTS)	
SWITCH POSITIONS	I, +, 0
DEGREE OF PROTECTION	In the area of the HMI devices: IP20 (basic protection type) IP20
DIRECTION OF INCOMING SUPPLY	As required
ELECTRICAL CONNECTION TYPE OF MAIN CIRCUIT	Screw connection
LIFESPAN, MECHANICAL	20000 operations
OVERVOLTAGE CATEGORY	III
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 band terminal)
NUMBER OF POLES	Three-pole
TERMINAL CAPACITY (COPPER STRIP)	Max. 10 segments of 24 mm x 0.8 mm at rear-side connection (punched) Min. 2 segements of 16 mm x 0.8 mm at rear-side connection (punched) NA: min. 2 segments of 16 mm x 0.8 mm at rear-side connection (punched) Max. 8 segments of 15.5 mm x 0.8 mm (2x) at terminal box Min. 2 segments of 9 mm x 0.8 mm at box terminal NA: 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 400 V AC-3 7500 operations at 690 V AC-1 10000 operations at 415 V AC-1 5000 operations at 690 V AC-3 6500 operations at 415 V AC-3

	10000 operations at 400 V AC-1
FUNCTIONS	Disconnectors/main switches
TYPE	Switch-disconnector
SPECIAL FEATURES	• IEC/EN 60947-2: circuit breakers without overcurrent (CBI-X) with main switch characteristics and isolating characteristics to IEC/EN 60204. • Rated current = rated uninterrupted current: 250 A
APPLICATION	Branch circuits, feeder circuits
POSITION OF CONNECTION FOR MAIN CURRENT CIRCUIT	Front side
RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	250 A
POWER LOSS	48 W
SHORT-CIRCUIT TOTAL BREAKTIME	< 10 ms
SHORT-CIRCUIT RELEASE NON-DELAYED SETTING - MAX	2500 A
SHORT-CIRCUIT RELEASE NON-DELAYED SETTING - MIN	2500 A
TERMINAL CAPACITY (COPPER BUSBAR)	M8 at rear-side screw connection Max. 24 mm x 8 mm direct at switch rear-side connection NA: M8 at rear-side screw connection Min. 16 mm x 5 mm direct at switch rear-side connection NA: min. 16 mm x 5 mm direct at switch rear-side connection NA: max. 20 mm x 5 mm direct at switch rear-side connection
TERMINAL CAPACITY (COPPER SOLID	10 mm^2 - 16 mm^2 (1x) at box terminal

CONDUCTOR/CABLE)	NA: 12 - 6 AWG (1x) at box terminal 10 mm² - 16 mm² (1x) direct at switch rear-side connection 4 mm² - 16 mm² (2x) direct at switch rear-side connection 16 mm² (1x) at tunnel terminal 6 mm² - 16 mm² (2x) at box terminal NA: 6 AWG (1x) at tunnel terminal NA: 12 - 6 AWG (1x) direct at switch rear-side connection
TERMINAL CAPACITY (ALUMINUM SOLID CONDUCTOR/CABLE)	10 mm² - 16 mm² (2x) direct at switch rear-side connection 16 mm² (1x) at tunnel terminal 10 mm² - 16 mm² (1x) direct at switch rear-side connection
TERMINAL CAPACITY (COPPER STRANDED CONDUCTOR/CABLE)	25 mm² - 185 mm² (1x) at box terminal 25 mm² - 70 mm² (2x) direct at switch rear-side connection 25 mm² - 70 mm² (2x) at box terminal 25 mm² - 185 mm² (1x) at 1-hole tunnel terminal NA: 4 - 350 AWG/kcmil (1x) at 1-hole tunnel terminal 25 mm² - 185 mm² (1x) direct at switch rear-side connection NA: 4 - 350 AWG/kcmil (1x) at box terminal
TERMINAL CAPACITY (ALUMINUM STRANDED CONDUCTOR/CABLE)	25 mm² - 185 mm² (1x) at 1-hole tunnel terminal 25 mm² - 35 mm² (2x) direct at switch rear-side connection 25 mm² - 35 mm² (1x) direct at switch rear-side connection
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	2500 A

INSTANTANEOUS CURRENT SETTING (II) - MIN	2500 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 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 BREAKING CAPACITY ICS (IEC/EN 60947) AT 525 V, 50/60 HZ	37.5 kA
RATED SHORT-CIRCUIT BREAKING CAPACITY ICS (IEC/EN 60947) AT 690 V, 50/60 HZ	5 kA
RATED SHORT-CIRCUIT MAKING CAPACITY ICM AT 400/415 V, 50/60 HZ	330 kA
RATED SHORT-CIRCUIT MAKING CAPACITY ICM AT 440 V, 50/60 HZ	286 kA
RATED SHORT-CIRCUIT MAKING CAPACITY ICM AT 525 V, 50/60 HZ	105 kA
RATED SHORT-CIRCUIT MAKING CAPACITY ICM AT 690 V, 50/60 HZ	53 kA
STANDARD TERMINALS	Screw terminal
OPTIONAL TERMINALS	Box terminal. Connection on rear. Tunnel terminal
RATED OPERATING VOLTAGE UE (UL) - MAX	600 Y / 347 V
RATED SHORT-CIRCUIT MAKING CAPACITY ICM AT 240 V, 50/60 HZ	330 kA
RATED IMPULSE WITHSTAND VOLTAGE (UIMP) AT AUXILIARY	6000 V

CONTACTS	
RATED IMPULSE WITHSTAND VOLTAGE (UIMP) AT MAIN CONTACTS	8000 V
RATED INSULATION VOLTAGE (UI)	1000 V AC

PROJECT NAME:	
PROJECT NUMBER:	
PREPARED BY:	
DATE:	

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