

Specifications



Photo is representative



Eaton 269249

Eaton Moeller series NZM - Molded Case Circuit Breaker. Circuit-breaker, 3p, 160A, B2-S160-CNA

General specifications

PRODUCT NAME	Eaton Moeller series NZM molded case circuit breaker magnetic
CATALOG NUMBER	269249
MODEL CODE	NZMB2-S160-CNA
EAN	4015082692490
PRODUCT LENGTH/DEPTH	149 mm
PRODUCT HEIGHT	195 mm
PRODUCT WIDTH	105 mm
PRODUCT WEIGHT	2.383 kg
COMPLIANCES	RoHS conform
CERTIFICATIONS	CE marking CSA-C22.2 No. 5-09 CSA certified IEC 60947-2 CSA (File No. 22086) Specially designed for North America UL/CSA UL (File No. E31593) IEC CSA (Class No. 1432-01) UL 489 UL listed UL (Category Control Number DKPU2) IEC/EN 60947

Product specifications

AMPERAGE RATING	160 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-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](#)

[eaton-circuit-breaker-characteristic-power-defense-mccb-characteristic-curve-030.eps](#)

CHARACTERISTIC CURVE

[eaton-circuit-breaker-nzm-mccb-characteristic-curve-052.eps](#)

[eaton-circuit-breaker-characteristic-power-defense-mccb-characteristic-curve-034.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-019.eps](#)

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

ECAD MODEL

[ETN.269249.edz](#)

INSTALLATION INSTRUCTIONS

[eaton-circuit-breakers-basic-device-nzm2-i01206006z.pdf](#)

INSTALLATION VIDEOS

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

[The new digital NZM Range](#)

MCAD MODEL

[DA-CS-nzm2_3p](#)

[DA-CD-nzm2_3p](#)

TECHNICAL DATA SHEETS

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

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	Fixed Built-in device fixed built-in technique
CLIMATIC PROOFING	Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30
EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT	24.35 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	355 A gG/gL

- MAX	
PROTECTION AGAINST DIRECT CONTACT	Finger and back-of-hand proof to VDE 0106 part 100
RATED INSULATION VOLTAGE (UI)	690 V
RATED OPERATING POWER AT AC-3, 230 V	45 kW
RATED OPERATING POWER AT AC-3, 400 V	90 kW
SWITCH OFF TECHNIQUE	Magnetic
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	20000 operations
OVERVOLTAGE CATEGORY	III
RATED OPERATIONAL CURRENT	160 A (660-690 V AC-3, making and breaking capacity) 300 A (415 V AC-1, making and breaking capacity) 300 A (400 V AC-1, making and breaking capacity)
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)	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 box terminal Min. 2 segments of 9 mm x 0.8 mm at box terminal Max. 10 segments of 16 mm x 0.8 mm at rear-side connection (punched)

LIFESPAN, ELECTRICAL	7500 operations at 400 V AC-1 6500 operations at 415 V AC-3
FUNCTIONS	Short-circuit 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: 160 A • Switches conform to UL/CSA as well as the IEC regulations. IEC switching performance values are contained on the rating plate. • Motor protection in conjunction with contactor and overload relay • With short-circuit release • Without overload release 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)
RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	160 A
SHORT-CIRCUIT RELEASE NON-DELAYED SETTING -	2240 A

MAX	
SHORT-CIRCUIT RELEASE	
NON-DELAYED SETTING -	1280 A
MIN	
HANDLE TYPE	Rocker lever
INSTANTANEOUS	
CURRENT SETTING (II) -	14 A
MAX	
INSTANTANEOUS	
CURRENT SETTING (II) -	8 A
MIN	
NUMBER OF	
OPERATIONS PER HOUR -	120
MAX	
OVERLOAD CURRENT	0 A
SETTING (IR) - MAX	
OVERLOAD CURRENT	0 A
SETTING (IR) - MIN	
RATED SHORT-CIRCUIT	
BREAKING CAPACITY ICS	
(IEC/EN 60947) AT 230 V,	30 kA
50/60 HZ	
RATED SHORT-CIRCUIT	
BREAKING CAPACITY ICS	
(IEC/EN 60947) AT	18.5 kA
400/415 V, 50/60 HZ	
RATED SHORT-CIRCUIT	
BREAKING CAPACITY ICS	
(IEC/EN 60947) AT 440 V,	18.5 kA
50/60 HZ	
STANDARD TERMINALS	Screw terminal
RATED OPERATING	
VOLTAGE UE (UL) - MAX	600 Y / 347 V, 480 V
RELEASE SYSTEM	Thermomagnetic release
SHORT-CIRCUIT TOTAL	
BREAKTIME	< 10 ms
TERMINAL CAPACITY	
(ALUMINUM SOLID	
CONDUCTOR/CABLE)	16 mm ² (1x) at tunnel terminal
TERMINAL CAPACITY	
(CONTROL CABLE)	14 mm ² - 18 mm ² (1x) 16 mm ² - 18 mm ² (2x)
TERMINAL CAPACITY	
(COPPER BUSBAR)	Max. 20 mm x 5 mm direct at switch rear-side connection Min. 16 mm x 5 mm direct at switch rear-side connection M8 at rear-side screw 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 (COPPER STRANDED CONDUCTOR/CABLE)	4 mm ² - 350 mm ² (1x) at box terminal 4 mm ² - 350 mm ² (1x) at tunnel terminal 4 mm ² - 3/0 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	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
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
POWER LOSS	24.3 W

PROJECT NAME:

PROJECT NUMBER:

PREPARED BY:

DATE:



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