Specifications

Photo is representative

Eaton 269178

Eaton Moeller series NZM - Molded Case Circuit Breaker. Circuit-breaker, 3p, 60A, N, frame 2, AF60-NA

General specifications	
PRODUCT NAME	Eaton Moeller series NZM molded case circuit breaker thermo-magnetic
CATALOG NUMBER	269178
MODEL CODE	NZMN2-AF60-NA
EAN	4015082691783
PRODUCT LENGTH/DEPTH	149 mm
PRODUCT HEIGHT	195 mm
PRODUCT WIDTH	105 mm
PRODUCT WEIGHT	2.422 kg
COMPLIANCES	RoHS conform
CERTIFICATIONS	IEC UL/CSA UL listed CSA certified Specially designed for North America CSA (File No. 22086) UL (Category Control Number DIVQ) IEC 60947-2 CSA-C22.2 No. 5-09 CSA (Class No. 1432-01) UL (File No. E31593) IEC/EN 60947 CE marking UL 489

Powering Business Worldwide

Product specifications

AMPERAGE RATING	60 A
VOLTAGE RATING	690 V - 690 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 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
CATALOGUES	eaton-digital-nzm-catalog-ca013003en-en-us.pdf
CHARACTERISTIC CURVE	eaton-circuit-breaker-nzm-mccb-characteristic-curve-050.eps eaton-circuit-breaker-nzm-mccb-characteristic-curve-039.eps eaton-circuit-breaker-current-nzm-mccb-characteristic-curve-004.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 eaton-circuit-breaker-switch-nzm-mccb-3d-drawing.eps
ECAD MODEL	ETN.269178.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

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	18.36 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 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	
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 (basic degree of protection, in the operating controls area) IP20
DIRECTION OF INCOMING SUPPLY	As required
ELECTRICAL CONNECTION TYPE OF MAIN CIRCUIT	Screw connection
LIFESPAN, MECHANICAL	20000 operations
OVERVOLTAGE CATEGORY	III
RATED OPERATIONAL CURRENT	300 A (380/400 V AC-1, making and breaking capacity) 300 A (415 V AC-1, making and breaking capacity) 60 A (660-690 V AC-3, making and breaking capacity) 60 A (690 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 segements of 16 mm x 0.8 mm at rear-side connection (punched) Min. 2 segments of 9 mm x 0.8 mm at box terminal Max. 10 segments of 16 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	5000 operations at 690 V AC-3 7500 operations at 690 V AC-1 6500 operations at 415 V AC-3 10000 operations at 400 V AC-1 6500 operations at 400 V AC-3
FUNCTIONS	Current limiting circuit breaker System and cable protection
TYPE	Circuit breaker
SPECIAL FEATURES	• 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: 60 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
APPLICATION	• Branch circuits, feeder circuits • Use in unearthed 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	60 A

CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	
POWER LOSS	18.4 W
RELEASE SYSTEM	Thermomagnetic release
SHORT-CIRCUIT TOTAL BREAKTIME	< 10 ms
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	600 A
SHORT-CIRCUIT RELEASE NON-DELAYED SETTING - MIN	360 A
TERMINAL CAPACITY (CONTROL CABLE)	14 mm² - 18 mm² (1x) 16 mm² - 18 mm² (2x)
TERMINAL CAPACITY (COPPER BUSBAR)	M8 at rear-side screw connection Min. 16 mm x 5 mm direct at switch rear-side connection Max. 20 mm x 5 mm direct at switch rear-side connection
TERMINAL CAPACITY (COPPER SOLID CONDUCTOR/CABLE)	6 mm² - 12 mm² (1x) at box terminal 16 mm² (1x) at tunnel terminal 6 mm² - 11 mm² (1x) direct at switch rear-side connection
TERMINAL CAPACITY (ALUMINUM SOLID CONDUCTOR/CABLE)	16 mm² (1x) at tunnel terminal
TERMINAL CAPACITY (COPPER STRANDED CONDUCTOR/CABLE)	4 mm² - 350 mm² (1x) at tunnel terminal 4 mm² - 350 mm² (1x) at box terminal 4 mm² - 3/0 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	10 A

INSTANTANEOUS CURRENT SETTING (II) - MIN	6 A
NUMBER OF OPERATIONS PER HOUR - MAX	120
OVERLOAD CURRENT SETTING (IR) - MAX	60 A
OVERLOAD CURRENT SETTING (IR) - MIN	60 A
RATED SHORT-CIRCUIT BREAKING CAPACITY ICS (IEC/EN 60947) AT 230 V, 50/60 HZ	85 kA
RATED SHORT-CIRCUIT BREAKING CAPACITY ICS (IEC/EN 60947) AT 400/415 V, 50/60 HZ	50 kA
RATED SHORT-CIRCUIT BREAKING CAPACITY ICS (IEC/EN 60947) AT 440 V, 50/60 HZ	35 kA
RATED SHORT-CIRCUIT BREAKING CAPACITY ICS (IEC/EN 60947) AT 525 V, 50/60 HZ	25 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	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 terminal
RATED OPERATING VOLTAGE UE (UL) - MAX	600Y/347 V, 480 V
RATED SHORT-CIRCUIT MAKING CAPACITY ICM AT 240 V, 50/60 HZ	187 kA
RATED IMPULSE WITHSTAND VOLTAGE (UIMP) AT AUXILIARY CONTACTS	6000 V
RATED IMPULSE	8000 V

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

PROJECT NAME:	
PROJECT NUMBER:	
PREPARED BY:	
DATE:	

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