Specifications

Photo is representative

Eaton 118965

Eaton Moeller series NZM - Molded Case Circuit Breaker. Circuit-breaker, 3p, 140A, motor protection, N, 2

General specifications

PRODUCT NAME	Eaton Moeller series NZM molded case circuit breaker electronic
CATALOG NUMBER	118965
MODEL CODE	NZMN2-ME140-NA
EAN	4015081170920
PRODUCT LENGTH/DEPTH	149 mm
PRODUCT HEIGHT	195 mm
PRODUCT WIDTH	105 mm
PRODUCT WEIGHT	2.345 kg
COMPLIANCES	RoHS conform
CERTIFICATIONS	IEC 60947-2 UL508 UL (Category Control Number DIVQ) Specially designed for North America CSA-C22.2 No. 5-09 UL/CSA UL (File No. E31593) UL 489 CSA (File No. 22086) UL listed IEC CSA (Class No. 1432-01) IEC/EN 60947 CSA certified CE marking

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Additional information

FUNCTIONS	Motor protection Current limiting circuit breaker Phase failure sensitive

Delivery programme

AMPERAGE RATING	140 A
APPLICATION	• Branch circuits, feeder circuits • Use in unearthed supply systems at 690 V
CIRCUIT BREAKER FRAME TYPE	NZM2
FITTED WITH:	Thermal protection
NUMBER OF POLES	Three-pole
RELEASE SYSTEM	Electronic release
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: 140 A • Switches conform to UL/CSA as well as the IEC regulations. IEC switching performance values are contained on the rating plate. • 100% rated • For use in motor circuits with contactor. • Additional motor protective characteristics (calibration) to UL508, CSA-C22.2 No. 14-05. • Adjustable overload releases Ir • adjustable time delay setting to overcome current peaks tr: 2 – 20 s at

	6 x Ir
TYPE	Circuit breaker

Design verification to IEC/EN 61439

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 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	Does not apply, since the

Design verification to IEC/EN 61439 - technical data

AMBIENT OPERATING TEMPERATURE - MAX	70 °C
AMBIENT STORAGE TEMPERATURE - MAX	70 °C
AMBIENT OPERATING TEMPERATURE - MIN	-25 °C
AMBIENT STORAGE TEMPERATURE - MIN	40 °C
EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT	16.17 W
RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	140 A

AGAINST ELECTRIC SHOCK	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.

Technical data - electrical

AMPERAGE RATING	140 A
DIRECTION OF INCOMING SUPPLY	As required
ELECTRICAL CONNECTION TYPE OF MAIN CIRCUIT	Screw connection
HANDLE TYPE	Rocker lever
INSTANTANEOUS CURRENT SETTING (II) - MAX	1960 A
INSTANTANEOUS CURRENT SETTING (II) - MIN	140 A
ISOLATION	500 V AC (between auxiliary contacts and main contacts) 300 V AC (between the auxiliary contacts)
LIFESPAN, ELECTRICAL	10000 operations at 400 V AC-1 7500 operations at 690 V AC-1 5000 operations at 690 V AC-3 6500 operations at 400 V AC-3 6500 operations at 415 V AC-3
LOW-VOLTAGE HBC FUSE - MAX	355 A gG/gL
MOTOR POWER AT 460/480 V (UL)	100 HP
NUMBER OF OPERATIONS PER HOUR - MAX	120
OVERLOAD CURRENT SETTING (IR) - MAX	140 A
OVERLOAD CURRENT SETTING (IR) - MIN	70 A
OVERVOLTAGE CATEGORY	III
POLLUTION DEGREE	3
RATED IMPULSE WITHSTAND VOLTAGE (UIMP) AT AUXILIARY CONTACTS	6000 V
RATED IMPULSE WITHSTAND VOLTAGE (UIMP) AT MAIN CONTACTS	8000 V
RATED INSULATION	1000 V

Technical data - mechanical

CLIMATIC PROOFING	Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30
DEGREE OF PROTECTION	IP20 (basic degree of protection, in the operating controls area) IP20
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)
LIFESPAN, MECHANICAL	20000 operations
MOUNTING METHOD	Built-in device fixed built-in technique Fixed
PROTECTION AGAINST DIRECT CONTACT	Finger and back-of-hand proof to VDE 0106 part 100
SHOCK RESISTANCE	20 g (half-sinusoidal shock 20 ms)
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: 140 A • Switches conform to UL/CSA as well as the IEC regulations. IEC switching performance values are contained on the rating plate. • 100% rated • For use in motor circuits with

VOLTAGE (UI)	
RATED OPERATING POWER AT AC-3, 230 V	45 kW
RATED OPERATING POWER AT AC-3, 400 V	75 kW
RATED OPERATING VOLTAGE UE (UL) - MAX	480 V
RATED OPERATIONAL CURRENT	140 A (690 V AC-1, making and breaking capacity) 300 A (400 V AC-1, making and breaking capacity) 300 A (415 V AC-1, making and breaking capacity) 140 A (660-690 V AC-3, making and breaking capacity)
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	35 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 240 V, 50/60 HZ	187 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
RATED SHORT-TIME WITHSTAND CURRENT (T = 0.3 S)	1.9 kA

	contactor. • Additional motor protective characteristics (calibration) to UL508, CSA-C22.2 No. 14-05. • Adjustable overload releases Ir • adjustable time delay setting to overcome current peaks tr: 2 – 20 s at 6 x Ir
SWITCH OFF TECHNIQUE	Electronic

RATED SHORT-TIME WITHSTAND CURRENT (T = 1 S)	1.9 kA
SHORT-CIRCUIT RELEASE NON-DELAYED SETTING - MAX	1960 A
SHORT-CIRCUIT RELEASE NON-DELAYED SETTING - MIN	280 A
SHORT-CIRCUIT TOTAL BREAKTIME	< 10 ms
UTILIZATION CATEGORY	A (IEC/EN 60947-2)
VOLTAGE RATING	690 V - 690 V

Technical data - mechanical - terminals

STANDARD TERMINALS	Screw terminal
TERMINAL CAPACITY (ALUMINUM SOLID CONDUCTOR/CABLE)	16 mm² (1x) at tunnel terminal
TERMINAL CAPACITY (CONTROL CABLE)	16 mm² - 18 mm² (2x) 14 mm² - 18 mm² (1x)
TERMINAL CAPACITY (COPPER BUSBAR)	Max. 20 mm x 5 mm direct at switch rear-side connection M8 at rear-side screw connection Min. 16 mm x 5 mm direct at switch rear-side connection
TERMINAL CAPACITY (COPPER SOLID CONDUCTOR/CABLE)	16 mm² (1x) at tunnel terminal 6 mm² - 12 mm² (1x) at box terminal 6 mm² - 11 mm² (1x) direct at switch rear-side connection
TERMINAL CAPACITY (COPPER STRANDED CONDUCTOR/CABLE)	4 mm² - 3/0 mm² (1x) direct at switch rear-side connection 4 mm² - 350 mm² (1x) at tunnel terminal 4 mm² - 350 mm² (1x) at box terminal
TERMINAL CAPACITY (COPPER STRIP)	Max. 10 segments of 16 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) 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

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-053.eps eaton-circuit-breaker-characteristic-power-defense-mccb-characteristic-curve-036.eps eaton-circuit-breaker-let-through-current-nzm-mccb-characteristic-curve-004.eps
DECLARATIONS OF CONFORMITY	eaton-molded-case-circuit-breaker-declaration-of-conformity-eu250291en.pdf
DRAWINGS	eaton-circuit-breaker-nzm-mccb-dimensions-019.eps eaton-circuit-breaker-switch-nzm-mccb-dimensions-017.eps eaton-general-ie-ready-dilm-contactor-standards.eps eaton-circuit-breaker-switch-nzm-mccb-3d-drawing.eps
INSTALLATION INSTRUCTIONS	eaton-circuit-breakers-basic-device-nzm2-il01206006z.pdf
INSTALLATION VIDEOS	Introduction of the new digital circuit breaker NZM The new digital NZM Range
MCAD MODEL	DA-CD-nzm2_3p DA-CS-nzm2_3p
PEP ECO-PASSPORT	eaton-molded-case-switches-pep-eato-00210-v0101-en.pdf

TECHNICAL DATA SHEETS	eaton-nzm-technical-information-sheet

PROJECT NAME:
PROJECT NUMBER:
PREPARED BY:
DATE:

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