Specifications



Photo is representative





Eaton 259127

Eaton Moeller series NZM - Molded Case Circuit Breaker. Circuit-breaker, 3p, 250A, H, frame2, VE250

General specifications	
PRODUCT NAME	Eaton Moeller series NZM molded case circuit breaker electronic
CATALOG NUMBER	259127
MODEL CODE	NZMH2-VE250
EAN	4015082591274
PRODUCT LENGTH/DEPTH	149 mm
PRODUCT HEIGHT	184 mm
PRODUCT WIDTH	105 mm
PRODUCT WEIGHT	2.479 kg
COMPLIANCES	RoHS conform
CERTIFICATIONS	IEC/EN 60947 IEC

Additional information

FUNCTIONS	Systems, cable, selectivity and generator protection

Delivery program

AMPERAGE RATING	250 A
APPLICATION	Use in unearthed supply systems at 690 V
CIRCUIT BREAKER FRAME TYPE	NZM2
FEATURES	Motor drive optional Protection unit
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) • R.m.s. value measurement and “thermal memory” • Adjustable time delay setting to overcome current peaks tr at 6 x Ir also infinity (without overload releases) • Adjustable delay time tsd • i^2t constant function: fixed OFF • Rated current = rated uninterrupted current: 250 A
TYPE	Circuit breaker

Design verification as per 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 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.

Design verification as per 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	51.56 W
RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	250 A

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	250 A
DIRECTION OF INCOMING SUPPLY	As required
ELECTRICAL CONNECTION TYPE OF MAIN CIRCUIT	Screw connection
HANDLE TYPE	Rocker lever
INSTANTANEOUS CURRENT SETTING (II) - MAX	3000 A
INSTANTANEOUS CURRENT SETTING (II) - MIN	3000 A
ISOLATION	500 V AC (between auxiliary contacts and main contacts) 300 V AC (between the auxiliary contacts)
LIFESPAN, ELECTRICAL	5000 operations at 690 V AC-3 10000 operations at 400 V AC-1 6500 operations at 415 V AC-3 10000 operations at 415 V AC-1 6500 operations at 400 V AC-3 7500 operations at 690 V AC-1
NUMBER OF OPERATIONS PER HOUR - MAX	120
OVERLOAD CURRENT SETTING (IR) - MAX	250 A
OVERLOAD CURRENT SETTING (IR) - MIN	125 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 VOLTAGE (UI)	1000 V AC
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	130 kA

Technical data - mechanical

CLIMATIC PROOFING	Damp heat, cyclic, to IEC 60068-2-30 Damp heat, constant, to IEC 60068-2-78
DEGREE OF PROTECTION	IP20 IP20 (basic degree of protection, in the operating controls area)
DEGREE OF PROTECTION (IP), FRONT SIDE	IP66 (with door coupling rotary handle) IP40 (with insulating surround)
DEGREE OF PROTECTION (TERMINATIONS)	IP10 (tunnel terminal) IP00 (terminations, phase isolator and strip terminal)
LIFESPAN, MECHANICAL	20000 operations
MOUNTING METHOD	Built-in device fixed built-in technique Fixed DIN rail (top hat rail) mounting optional
NUMBER OF AUXILIARY CONTACTS (CHANGE-OVER CONTACTS)	0
NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS)	0
NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS)	0
POSITION OF CONNECTION FOR MAIN CURRENT CIRCUIT	Front side
PROTECTION AGAINST DIRECT CONTACT	Finger and back-of-hand proof to DIN EN 50274/VDE 0106 part 110
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) • R.m.s. value measurement and “thermal memory” • Adjustable time delay setting to overcome current peaks tr at 6 x Ir also infinity (without overload releases) • Adjustable delay time tsd • i^2t constant function: fixed OFF • Rated current = rated

V, 50/60 HZ	
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 240 V, 50/60 HZ	330 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	40 kA
RATED SHORT-TIME WITHSTAND CURRENT (T = 0.3 S)	1.9 kA
RATED SHORT-TIME WITHSTAND CURRENT (T = 1 S)	1.9 kA
SHORT DELAY CURRENT SETTING (ISD) - MAX	2500 A
SHORT DELAY CURRENT SETTING (ISD) - MIN	250 A
SHORT-CIRCUIT RELEASE DELAYED SETTING - MAX	2500 A
SHORT-CIRCUIT RELEASE DELAYED SETTING - MIN	250 A
SHORT-CIRCUIT RELEASE NON-DELAYED SETTING - MAX	3000 A
SHORT-CIRCUIT RELEASE NON-DELAYED SETTING - MIN	3000 A
SHORT-CIRCUIT TOTAL BREAKTIME	< 10 ms
UTILIZATION CATEGORY	A (IEC/EN 60947-2)
VOLTAGE RATING	690 V - 690 V

uninterrupted current: 250 A

Technical data - mechanical - terminals

OPTIONAL TERMINALS	Box terminal. Connection on rear. Tunnel terminal
STANDARD TERMINALS	Screw terminal
TERMINAL CAPACITY (ALUMINUM SOLID CONDUCTOR/CABLE)	10 mm² - 16 mm² (1x) direct at switch rear-side connection 10 mm² - 16 mm² (2x) direct at switch rear-side connection 16 mm² (1x) at tunnel terminal
TERMINAL CAPACITY (ALUMINUM STRANDED CONDUCTOR/CABLE)	25 mm² - 50 mm² (1x) direct at switch rear-side connection 25 mm² - 50 mm² (2x) direct at switch rear-side connection 25 mm² - 185 mm² (1x) at tunnel terminal
TERMINAL CAPACITY (CONTROL CABLE)	0.75 mm² - 2.5 mm² (1x) 0.75 mm² - 1.5 mm² (2x)
TERMINAL CAPACITY (COPPER BUSBAR)	Min. 16 mm x 5 mm direct at switch rear-side connection M8 at rear-side screw connection Max. 24 mm x 8 mm direct at switch rear-side connection
TERMINAL CAPACITY (COPPER SOLID CONDUCTOR/CABLE)	6 mm² - 16 mm² (2x) at box terminal 10 mm² - 16 mm² (1x) direct at switch rear-side connection 10 mm² - 16 mm² (1x) at box terminal 6 mm² - 16 mm² (2x) direct at switch rear-side connection 16 mm² (1x) at tunnel terminal
TERMINAL CAPACITY (COPPER STRANDED CONDUCTOR/CABLE)	25 mm² - 70 mm² (2x) at box terminal 25 mm² - 70 mm² (2x) direct at switch rear-side connection 25 mm² - 185 mm² (1x) at 1-hole tunnel terminal 25 mm² - 185 mm² (1x) direct at switch rear-side connection 25 mm² - 185 mm² (1x) at box terminal
TERMINAL CAPACITY (COPPER STRIP)	Max. 10 segments of 24 mm x 0.8 mm at rear-side connection (punched) Min. 2 segments of 9 mm x 0.8 mm at box terminal 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 Max. 8 segments of 24 mm x 1 mm (2x) at box terminal Min. 2 segments of 16 mm x 0.8 mm at rear-side connection (punched)

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-characteristic-power-defense-mccb-characteristic-curve-037.eps eaton-circuit-breaker-nzm-mccb-characteristic-curve-054.eps eaton-circuit-breaker-let-through-current-nzm-mccb-characteristic-curve-005.eps
DECLARATIONS OF CONFORMITY	eaton-molded-case-switches-declaration-uk251453en.pdf 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-circuit-breaker-switch-nzm-mccb-3d-drawing.eps
ECAD MODEL	ETN.259127.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	eaton-molded-case-switches-mcad-3d-models-nzm2-3p.stp eaton-molded-case-switches-mcad-drawings-nzm2-3p.dwg
PEP ECO-PASSPORT	eaton-molded-case-switches-pep-eato-00195-v0101-en.pdf
TECHNICAL DATA SHEETS	eaton-nzm-technical-information-sheet

PROJECT NAME:	
PROJECT NUMBER:	
PREPARED BY:	
DATE:	

Eaton Corporation plc Eaton House
30 Pembroke Road
Dublin 4, Ireland
Eaton.com

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