

Specifications



Eaton 113733

Eaton Moeller series NZM - Molded Case Circuit Breaker. Switch-disconnector 3p 160A +pull out

General specifications

PRODUCT NAME	Eaton Moeller series NZM switch-disconnector
CATALOG NUMBER	113733
MODEL CODE	N2-160-SVE
EAN	4015081132737
PRODUCT LENGTH/DEPTH	180 mm
PRODUCT HEIGHT	245 mm
PRODUCT WIDTH	105 mm
PRODUCT WEIGHT	2.385 kg
COMPLIANCES	RoHS conform
CERTIFICATIONS	IEC/EN 60947 IEC
GLOBAL CATALOG	113733

Product specifications

AMPERAGE RATING	160 A
VOLTAGE RATING	690 V - 690 V
CIRCUIT BREAKER FRAME TYPE	N2
FEATURES	<p>Version as main switch</p> <p>Version as emergency stop installation</p> <p>Version as maintenance-/service switch</p> <p>Motor drive optional</p>
ACCESSORIES REQUIRED	NZM2-XSVS socket base
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.

Resources

BROCHURES

[eaton-feerum-the-whole-grain-solution-success-story-en-us.pdf](#)

[eaton-digital-nzm-brochure-br013003en-en-us.pdf](#)

CATALOGS

[eaton-digital-nzm-catalog-ca013003en-en-us.pdf](#)

DECLARATIONS OF CONFORMITY

[eaton-switch-disconnector-declaration-of-conformity-eu250126en.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

[DA-CE-ETN.N2-160-SVE](#)

INSTALLATION VIDEOS

[The new digital NZM Range](#)

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

MCAD MODEL

[DA-CD-nzm2_xsve](#)

[DA-CS-nzm2_xsve](#)

PEP ECO-PASSPORT

[eaton-switch-disconnectors-pep-eato-00196-v0101-en.pdf](#)

TECHNICAL DATA SHEETS

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

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.
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	Ground mounting Intermediate mounting Plug-in unit Built-in device plug-in technique Distribution board installation
CLIMATIC PROOFING	Damp heat, cyclic, to IEC 60068-2-30 Damp heat, constant, to IEC 60068-2-78
EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT	19.66 W
ISOLATION	500 V AC (between auxiliary contacts and main contacts) 300 V AC (between the auxiliary contacts)
RATED SHORT-TIME WITHSTAND CURRENT (ICW)	3.5 kA
DEGREE OF PROTECTION	IP20 (basic protection)

	<p>type, in the area of the HMI devices) Other</p>
DIRECTION OF INCOMING SUPPLY	As required
ELECTRICAL CONNECTION TYPE OF MAIN CIRCUIT	Screw connection
AMBIENT OPERATING TEMPERATURE - MAX	70 °C
AMBIENT OPERATING TEMPERATURE - MIN	-25 °C
AMBIENT STORAGE TEMPERATURE - MAX	70 °C
AMBIENT STORAGE TEMPERATURE - MIN	40 °C
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
RATED INSULATION VOLTAGE (Ui)	690 V
RATED OPERATING FREQUENCY	50 Hz
RATED OPERATING POWER AT AC-23, 400 V	90 kW
RATED OPERATING POWER AT AC-3, 400 V	0 kW
SWITCH POSITIONS	I, +, 0
LIFESPAN, MECHANICAL	20000 operations
OVERVOLTAGE CATEGORY	III
RATED OPERATIONAL CURRENT	<p>160 A (415 V AC-22/23A, making and breaking capacity) 160 A (690 V AC-22/23A, making and breaking capacity)</p>
DEGREE OF PROTECTION (IP), FRONT SIDE	<p>IP66 (with door coupling rotary handle) IP40 (with insulating surround) IP20</p>

DEGREE OF PROTECTION (TERMINATIONS)	IP00 (terminations, phase isolator and band terminal) IP10 (tunnel terminal)
NUMBER OF POLES	Three-pole
TERMINAL CAPACITY (COPPER STRIP)	<p>Max. 10 segments of 16 mm x 0.8 mm at box terminal</p> <p>Max. 10 segments of 24 mm x 0.8 mm at rear-side connection (punched)</p> <p>Min. 2 segments of 16 mm x 0.8 mm at rear-side connection (punched)</p> <p>Min. 2 segments of 9 mm x 0.8 mm at box terminal</p> <p>Max. 8 segments of 15.5 mm x 0.8 mm (2x) at box terminal</p>
HANDLE COLOR	Black
LIFESPAN, ELECTRICAL	<p>7500 operations at 415 V AC-3</p> <p>7500 operations at 690 V AC-1</p> <p>5000 operations at 690 V AC-3</p> <p>10000 operations at 400 V AC-1</p> <p>10000 operations at 415 V AC-1</p> <p>7500 operations at 400 V AC-3</p>
FUNCTIONS	<p>Voltage release optional</p> <p>Disconnectors/main switches</p> <p>Interlockable</p>
TYPE	Switch-disconnector
SPECIAL FEATURES	<ul style="list-style-type: none"> • Main switch characteristics including positive drive to IEC/EN 60204 and VDE 0113. • Isolating characteristics to IEC/EN 60947-3 and VDE 0660. • Busbar tag shroud to VDE 0160 Part 100. • Rated current = rated uninterrupted current: 160 A • The rated short-

	time withstand current for PN2/N2 in conjunction with earth-fault release NZM2-4-XFI...lcw = 1.5 kA
APPLICATION	Use in unearthing supply systems at 690 V
SHOCK RESISTANCE	20 g (half-sinusoidal shock 20 ms)
NUMBER OF SWITCHES	1
RATED CONDITIONAL SHORT-CIRCUIT CURRENT (IQ)	0 kA
RATED CONDITIONAL SHORT-CIRCUIT CURRENT WITH BACK-UP FUSE	80 kA at 690 V 100 kA at 400/415 V PN2(N2)-160...250: 250 AgGgL
RATED CONDITIONAL SHORT-CIRCUIT CURRENT WITH DOWNSTREAM FUSE	100 kA at 400/415 V 80 kA at 690 V PN2(N2)-160...250: 250 AgGgL
RATED OPERATING VOLTAGE (UE) AT AC - MAX	690 V
RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	160 A
RATED PERMANENT CURRENT AT AC-21, 400 V	0 A
RATED PERMANENT CURRENT AT AC-23, 400 V	0 A
RATED SHORT-TIME WITHSTAND CURRENT (T = 0.3 S)	3.5 kA
RATED SHORT-TIME WITHSTAND CURRENT (T = 1 S)	3.5 kA
SWITCHING POWER AT 400 V	0 kW
HANDLE TYPE	Rocker lever
NUMBER OF OPERATIONS PER HOUR - MAX	120
RATED SHORT-CIRCUIT MAKING CAPACITY ICM AT 690 V, 50/60 Hz	5.5 kA
RATED IMPULSE WITHSTAND VOLTAGE (UIMP) AT AUXILIARY CONTACTS	6000 V

RATED IMPULSE WITHSTAND VOLTAGE (UIMP) AT MAIN CONTACTS	8000 V
SHORT-CIRCUIT PROTECTIVE DEVICE FUSES - MAX	250 A gL
TERMINAL CAPACITY (COPPER BUSBAR)	<p>Min. 16 mm x 5 mm direct at switch rear-side connection</p> <p>Max. 24 mm x 8 mm direct at switch rear-side connection</p> <p>M8 at rear-side screw connection</p>
TERMINAL CAPACITY (COPPER SOLID CONDUCTOR/CABLE)	<p>6 mm² - 16 mm² (2x) at box terminal</p> <p>16 mm² (1x) at tunnel terminal</p> <p>6 mm² - 16 mm² (2x) direct at switch rear-side connection</p> <p>10 mm² - 16 mm² (1x) direct at switch rear-side connection</p> <p>10 mm² - 16 mm² (1x) at box terminal</p>
TERMINAL CAPACITY (ALUMINUM SOLID CONDUCTOR/CABLE)	<p>10 mm² - 16 mm² (1x) direct at switch rear-side connection</p> <p>16 mm² (1x) at tunnel terminal</p> <p>10 mm² - 16 mm² (2x) direct at switch rear-side connection</p>
TERMINAL CAPACITY (COPPER STRANDED CONDUCTOR/CABLE)	<p>25 mm² - 185 mm² (1x) at box terminal</p> <p>25 mm² - 185 mm² (1x) at 1-hole tunnel terminal</p> <p>25 mm² - 185 mm² (1x) direct at switch rear-side connection</p> <p>25 mm² - 70 mm² (2x) at box terminal</p> <p>25 mm² - 70 mm² (2x) direct at switch rear-side connection</p>
TERMINAL CAPACITY (ALUMINUM STRANDED CONDUCTOR/CABLE)	25 mm ² - 185 mm ² (1x) at 1-hole tunnel terminal

PROJECT NAME:

PROJECT NUMBER:

PREPARED BY:

DATE:



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