

Specifications



Photo is representative



Eaton 115793

Eaton Moeller series NZM - Molded Case Circuit Breaker. Circuit-breaker, 3p, 80A, plug-in module, H1-M80-SVE

General specifications

PRODUCT NAME	Eaton Moeller series NZM molded case circuit breaker thermo-magnetic
CATALOG NUMBER	115793
MODEL CODE	NZMH1-M80-SVE
EAN	4015081155330
PRODUCT LENGTH/DEPTH	90 mm
PRODUCT HEIGHT	201 mm
PRODUCT WIDTH	95 mm
PRODUCT WEIGHT	1.202 kg
COMPLIANCES	RoHS conform
CERTIFICATIONS	IEC/EN 60947 IEC

Product specifications

AMPERAGE RATING	80 A
VOLTAGE RATING	690 V - 690 V
CIRCUIT BREAKER FRAME TYPE	NZM1
ACCESSORIES REQUIRED	NZM1-XSVS
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.

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](#)

[eaton-circuit-breaker-let-through-current-nzm-mccb-characteristic-curve-003.eps](#)

CHARACTERISTIC CURVE

[eaton-circuit-breaker-nzm-mccb-characteristic-curve-058.eps](#)

DECLARATIONS OF CONFORMITY

[eaton-molded-case-circuit-breaker-declaration-of-conformity-eu250289en.pdf](#)

[eaton-circuit-breaker-switch-nzm-mccb-dimensions-014.eps](#)

[eaton-circuit-breaker-nzm-mccb-dimensions-017.eps](#)

DRAWINGS

[eaton-circuit-breaker-adapter-nzm-mccb-dimensions.eps](#)

[eaton-general-ie-ready-dilm-contactor-standards.eps](#)

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

INSTALLATION INSTRUCTIONS

[eaton-cirucit-breaker-switch-disconnector-nzmb-il01203004z.pdf](#)

[The new digital NZM Range](#)

INSTALLATION VIDEOS

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

[DA-CS-nzm1_xsve](#)

MCAD MODEL

[eaton-molded-case-switches-mcad-3d-models-nzm1-xsve.stp](#)

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.
FITTED WITH:	Thermal protection
POLLUTION DEGREE	3
MOUNTING METHOD	Built-in device plug-in technique Plug-in unit
CLIMATIC PROOFING	Damp heat, cyclic, to IEC 60068-2-30 Damp heat, constant, to IEC 60068-2-78
EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT	20.83 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	70 °C

TECHNICAL DATA SHEETS	<u>eaton-molded-case-switches-mcad-drawings-nzm1-xsve.dwg</u> <u>DA-CD-nzm1_xsve</u> <u>eaton-nzm-technical-information-sheet</u>
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TEMPERATURE - MAX	
AMBIENT STORAGE TEMPERATURE - MIN	40 °C
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	22 kW
RATED OPERATING POWER AT AC-3, 400 V	45 kW
SWITCH OFF TECHNIQUE	Thermomagnetic
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	Other
LIFESPAN, MECHANICAL	20000 operations
OVERVOLTAGE CATEGORY	III
RATED OPERATIONAL CURRENT	68 A (400 V AC-3)
DEGREE OF PROTECTION (IP), FRONT SIDE	IP40 (with insulating surround) IP66 (with door coupling rotary handle)
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 9 mm x 0.8 mm at box terminal Max. 9 segments of 9 mm x 0.8 mm at box terminal
LIFESPAN, ELECTRICAL	7500 operations at 415 V AC-3 10000 operations at 415 V AC-1 5000 operations at 690 V AC-3 7500 operations at 400 V AC-3 7500 operations at 690 V AC-1

	10000 operations at 400 V AC-1
FUNCTIONS	Motor protection Phase failure sensitive
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: 80 A • Terminal capacity hint: Up to 95 mm² can be connected depending on the cable manufacturer. • With phase-failure sensitivity • Tripping class 10 A • IEC/EN 60947-4-1, IEC/EN 60947-2 • The circuit-breaker fulfills all requirements for AC-3 switching category.
APPLICATION	Use in unearthing supply systems at 690 V
SHOCK RESISTANCE	20 g (half-sinusoidal shock 20 ms)
RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	80 A
SHORT-CIRCUIT RELEASE	
NON-DELAYED SETTING - MAX	1120 A
SHORT-CIRCUIT RELEASE	
NON-DELAYED SETTING - MIN	640 A
HANDLE TYPE	Rocker lever

INSTANTANEOUS	
CURRENT SETTING (II) -	1120 A
MAX	
INSTANTANEOUS	
CURRENT SETTING (II) -	640 A
MIN	
NUMBER OF	
OPERATIONS PER HOUR -	120
MAX	
OVERLOAD CURRENT	
SETTING (IR) - MAX	80 A
OVERLOAD CURRENT	
SETTING (IR) - MIN	63 A
RATED SHORT-CIRCUIT	
BREAKING CAPACITY ICS	
(IEC/EN 60947) AT 230 V,	100 kA
50/60 HZ	
RATED SHORT-CIRCUIT	
BREAKING CAPACITY ICS	
(IEC/EN 60947) AT	35 kA
400/415 V, 50/60 HZ	
RATED SHORT-CIRCUIT	
BREAKING CAPACITY ICS	
(IEC/EN 60947) AT 440 V,	35 kA
50/60 HZ	
RATED SHORT-CIRCUIT	
BREAKING CAPACITY ICS	
(IEC/EN 60947) AT 525 V,	10 kA
50/60 HZ	
RATED SHORT-CIRCUIT	
BREAKING CAPACITY ICS	
(IEC/EN 60947) AT 690 V,	7.5 kA
50/60 HZ	
STANDARD TERMINALS	Box terminal
OPTIONAL TERMINALS	Connection on rear. Screw terminal. Tunnel terminal
RELEASE SYSTEM	Thermomagnetic release
SHORT-CIRCUIT TOTAL	
BREAKTIME	< 10 ms
TERMINAL CAPACITY	
(ALUMINUM SOLID CONDUCTOR/CABLE)	10 mm ² - 16 mm ² (2x) direct at switch rear-side connection 10 mm ² - 16 mm ² (1x) direct at switch rear-side connection 16 mm ² (1x) at tunnel terminal
TERMINAL CAPACITY	
(ALUMINUM STRANDED CONDUCTOR/CABLE)	25 mm ² - 95 mm ² (1x) at tunnel terminal 25 mm ² - 35 mm ² (2x)

	direct at switch rear-side connection 25 mm ² - 35 mm ² (1x) direct at switch rear-side connection
TERMINAL CAPACITY (CONTROL CABLE)	0.75 mm ² - 1.5 mm ² (2x) 0.75 mm ² - 2.5 mm ² (1x)
TERMINAL CAPACITY (COPPER BUSBAR)	M6 at rear-side screw connection Min. 12 mm x 5 mm direct at switch rear-side connection Max. 16 mm x 5 mm direct at switch rear-side connection
TERMINAL CAPACITY (COPPER SOLID CONDUCTOR/CABLE)	10 mm ² - 16 mm ² (1x) at box terminal 10 mm ² - 16 mm ² (1x) direct at switch rear-side connection 16 mm ² (1x) at tunnel terminal 6 mm ² - 16 mm ² (2x) at box terminal 6 mm ² - 16 mm ² (2x) direct at switch rear-side connection
TERMINAL CAPACITY (COPPER STRANDED CONDUCTOR/CABLE)	25 mm ² (2x) direct at switch rear-side connection 10 mm ² - 70 mm ² (1x) at box terminal 25 mm ² - 95 mm ² (1x) at 1-hole tunnel terminal 6 mm ² - 25 mm ² (2x) at box terminal 10 mm ² - 70 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	35 kA
RATED SHORT-CIRCUIT MAKING CAPACITY ICM AT 400/415 V, 50/60 Hz	220 kA
RATED SHORT-CIRCUIT MAKING CAPACITY ICM AT 440 V, 50/60 Hz	154 kA
RATED SHORT-CIRCUIT MAKING CAPACITY ICM AT 525 V, 50/60 Hz	40 kA
RATED SHORT-CIRCUIT	17 kA

**MAKING CAPACITY ICM
AT 690 V, 50/60 Hz**

**RATED SHORT-CIRCUIT
MAKING CAPACITY ICM** 220 kA
AT 240 V, 50/60 Hz

**RATED IMPULSE
WITHSTAND VOLTAGE
(UIMP) AT AUXILIARY
CONTACTS** 6000 V

**RATED IMPULSE
WITHSTAND VOLTAGE
(UIMP) AT MAIN
CONTACTS** 6000 V

POWER LOSS 20.8 W

PROJECT NAME:

PROJECT NUMBER:

PREPARED BY:

DATE:



Eaton Corporation plc

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

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