

Specifications



Photo is representative



Eaton 102690

Eaton Moeller series NZM - Molded Case Circuit Breaker. Molded Case Switch, 3p, 1000A

General specifications

PRODUCT NAME	Eaton Moeller series NZM molded case switch
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CATALOG NUMBER	102690
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MODEL CODE	NS4-1000-NA
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EAN	4015081025503
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PRODUCT LENGTH/DEPTH	401 mm
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PRODUCT HEIGHT	207 mm
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PRODUCT WIDTH	210 mm
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PRODUCT WEIGHT	21 kg
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COMPLIANCES	RoHS conform
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CERTIFICATIONS	CSA-C22.2 No. 5-09 CSA (Class No. 4652-06) Specially designed for North America CSA (File No. 22086) UL (File No. E148671) IEC CSA certified IEC 60947-2 UL 489 CE marking UL (Category Control Number WJAZ) UL listed UL/CSA
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Powering Business Worldwide

Product specifications

AMPERAGE RATING	1000 A
VOLTAGE RATING	690 V - 690 V
CIRCUIT BREAKER FRAME TYPE	N4
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

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
DECLARATIONS OF CONFORMITY	eaton-molded-case-switch-declaration-of-conformity-eu250136en.pdf
DRAWINGS	eaton-circuit-breaker-nzm-mccb-dimensions-022.eps eaton-circuit-breaker-switch-nzm-mccb-3d-drawing-003.eps
ECAD MODEL	DA-CE-ETN.NS4-1000-NA
INSTALLATION INSTRUCTIONS	eaton-circuit-breaker-basic-unit-bg4-il012101zu.pdf
INSTALLATION VIDEOS	Introduction of the new digital circuit breaker NZM The new digital NZM Range
MCAD MODEL	DA-CS-nzm4_3p DA-CD-nzm4_3p
TECHNICAL DATA SHEETS	eaton-nzm-technical-information-sheet

	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	Built-in device fixed built-in technique Fixed DIN rail (top hat rail) mounting optional
EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT	111 W
AMBIENT OPERATING TEMPERATURE - MAX	70 °C
AMBIENT OPERATING TEMPERATURE - MIN	-25 °C
AMBIENT STORAGE TEMPERATURE - MAX	70 °C
AMBIENT STORAGE TEMPERATURE - MIN	40 °C
RATED CURRENT (IU)	1200 A
CURRENT RATING (IU) (UL 489 CSA 22.2 NO. 5.1)	1200 A

NUMBER OF AUXILIARY CONTACTS (CHANGE-OVER CONTACTS)	0
NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS)	0
NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS)	0
SWITCH POSITIONS	I, +, 0
DEGREE OF PROTECTION	In the area of the HMI devices: IP20 (basic protection type) IP20
DIRECTION OF INCOMING SUPPLY	As required
ELECTRICAL CONNECTION TYPE OF MAIN CIRCUIT	Screw connection
LIFESPAN, MECHANICAL	10000 operations
OVERVOLTAGE CATEGORY	III
DEGREE OF PROTECTION (IP), FRONT SIDE	IP40 (with insulating surround) IP66 (with door coupling rotary handle)
DEGREE OF PROTECTION (TERMINATIONS)	IP10 (tunnel terminal) IP00 (terminations, phase isolator and band terminal)
NUMBER OF POLES	Three-pole
TERMINAL CAPACITY (COPPER STRIP)	Min. 6 segments of 16 mm x 0.8 mm at flat conductor terminal Max. 10 segments of 32 mm x 1 mm (2x) at flat conductor terminal 10 segments of 50 mm x 1 mm (2x) at 1-hole module plate Min. 10 segments of 50 mm x 1 mm (2x) at rear-side connection (punched) Max. 10 segments of 50 mm x 1 mm (2x) at rear-side connection (punched) 10 segments of 80 mm x 1 mm (2x) at rear-side width extension NA: same as for IEC
LIFESPAN, ELECTRICAL	2000 operations at 400 V AC-3

	2000 operations at 415 V AC-1 3000 operations at 400 V AC-1 1000 operations at 690 V AC-3 2000 operations at 415 V AC-3 2000 operations at 690 V AC-1
FUNCTIONS	Disconnectors/main switches
TYPE	Switch-disconnector

SPECIAL FEATURES	• IEC/EN 60947-2: circuit breakers without overcurrent (CBI-X) with main switch characteristics and isolating characteristics to IEC/EN 60204. • Rated current = rated uninterrupted current: 1000 A
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APPLICATION	Branch circuits, feeder circuits
POSITION OF CONNECTION FOR MAIN CURRENT CIRCUIT	Front side
RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	1000 A
SHORT-CIRCUIT TOTAL BREAKTIME	< 25 ms (415 V); < 35 ms (> 415 V)
SHORT-CIRCUIT RELEASE NON-DELAYED SETTING - MAX	25000 A
SHORT-CIRCUIT RELEASE NON-DELAYED SETTING - MIN	25000 A
TERMINAL CAPACITY (COPPER BUSBAR)	M10 at rear-side screw connection Min. 25 mm x 5 mm direct at switch rear-side connection Max. 50 mm x 10 mm (2x) direct at switch rear-side connection Min. 25 mm x 5 mm at rear-side 1-hole module

	plate Max. 50 mm x 10 mm (2x) at rear-side 1-hole module plate 50 mm x 10 mm (2x) at rear-side 2-hole module plate Min. 60 mm x 10 mm at rear-side width extension Max. 80 mm x 10 mm (2x) at rear-side width extension NA: same as for IEC
TERMINAL CAPACITY (COPPER STRANDED CONDUCTOR/CABLE)	50 mm² - 240 mm² (4x) at 4-hole tunnel terminal 120 mm² - 185 mm² (1x) direct at switch rear-side connection 50 mm² - 185 mm² (4x) direct at switch rear-side connection Min. 120 mm² - 300 mm² (1x) at rear-side 1-hole module plate Max. 95 mm² - 300 mm² (2x) at rear-side 1-hole module plate Min. 95 mm² - 185 mm² (2x) at rear-side 2-hole module plate Max. 35 mm² - 185 mm² (4x) at rear-side 2-hole module plate 300 mm² (4x) at rear-side width extension 95 mm² - 240 mm² (6x) at rear-side width extension NA: AWG 0- kcmil 500 (4x) at 4-hole tunnel terminal NA: kcmil 250 - kcmil 350 (1x) direct at switch rear-side connection NA: AWG 0 - kcmil 350 (4x) direct at switch rear-side connection NA: min. kcmil 250 - kcmil 600 (1x) at rear-side 1-hole module plate NA: max. AWG 3/0 - kcmil 600 (2x) at rear-side 1-hole module plate NA: min. AWG 3/0 - kcmil 350 (2x) at rear-side 2-hole module plate NA: max. AWG 2 - kcmil 350 (4x) at rear-side 2-hole

	module plate NA: kcmil 600 (4x) at rear-side width extension NA: AWG 3/0 - kcmil 500 (6x) at rear-side width extension
TERMINAL CAPACITY (ALUMINUM STRANDED CONDUCTOR/CABLE)	Min. 185 mm ² - 240 mm ² (1x) at rear-side 1-hole module plate Max. 70 mm ² - 185 mm ² (2x) at rear-side 1-hole module plate 50 mm ² (4x) at rear-side 2-hole module plate 240 mm ² (2x) at rear-side width extension 70 mm ² - 240 mm ² (6x) at rear-side width extension NA: aluminum conductor not applicable
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	25000 A
INSTANTANEOUS CURRENT SETTING (II) - MIN	25000 A
NUMBER OF OPERATIONS PER HOUR - MAX	60
OVERLOAD CURRENT SETTING (IR) - MAX	0 A
OVERLOAD CURRENT SETTING (IR) - MIN	0 A
RATED SHORT-CIRCUIT BREAKING CAPACITY ICS (IEC/EN 60947) AT 230 V, 50/60 HZ	43 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	33 kA
RATED SHORT-CIRCUIT	20 kA

BREAKING CAPACITY ICS (IEC/EN 60947) AT 525 V, 50/60 HZ	
RATED SHORT-CIRCUIT BREAKING CAPACITY ICS (IEC/EN 60947) AT 690 V, 50/60 HZ	18 kA
RATED SHORT-CIRCUIT MAKING CAPACITY ICM AT 400/415 V, 50/60 HZ	154 kA
RATED SHORT-CIRCUIT MAKING CAPACITY ICM AT 440 V, 50/60 HZ	143 kA
RATED SHORT-CIRCUIT MAKING CAPACITY ICM AT 525 V, 50/60 HZ	84 kA
RATED SHORT-CIRCUIT MAKING CAPACITY ICM AT 690 V, 50/60 HZ	74 kA
STANDARD TERMINALS	Screw connection,Optional:Tunnel terminal,Rear-side connection,Strip connection
RATED OPERATING VOLTAGE UE (UL) - MAX	600 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 WITHSTAND VOLTAGE (UIMP) AT MAIN CONTACTS	8000 V
RATED INSULATION VOLTAGE (UI)	1000 V AC

PROJECT NAME:
PROJECT NUMBER:
PREPARED BY:
DATE:



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