

Specifications

Eaton 113585



Photo is representative

Eaton Moeller series NZM - Molded Case Circuit Breaker. Circuit-breaker, 4p, 400A, 250A in 4th pole, withdrawable unit, H3-4-AE400/250-T-AVE

General specifications

PRODUCT NAME	Eaton Moeller series NZM molded case circuit breaker electronic
CATALOG NUMBER	113585
MODEL CODE	NZMH3-4-AE400/250-T-AVE
EAN	4015081131105
PRODUCT LENGTH/DEPTH	346 mm
PRODUCT HEIGHT	260 mm
PRODUCT WIDTH	230 mm
PRODUCT WEIGHT	14.025 kg
COMPLIANCES	RoHS conform
CERTIFICATIONS	IEC/EN 60947 IEC

Product specifications

AMPERAGE RATING	400 A
VOLTAGE RATING	690 V - 690 V
CIRCUIT BREAKER FRAME TYPE	NZM3
FEATURES	Protection unit Motor drive optional
ACCESSORIES REQUIRED	NZM3-4-XAVS
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	Does not apply, since the

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](#)

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

CHARACTERISTIC CURVE

[eaton-circuit-breaker-nzm-mccb-characteristic-curve-045.eps](#)

[eaton-circuit-breaker-nzm-mccb-characteristic-curve-033.eps](#)

DECLARATIONS OF CONFORMITY

[eaton-molded-case-circuit-breaker-declaration-of-conformity-eu250293en.pdf](#)

[eaton-circuit-breaker-nzm-mccb-dimensions-021.eps](#)

DRAWINGS

[eaton-circuit-breaker-withdrawable-unit-nzm-mccb-dimensions-002.eps](#)

[eaton-circuit-breaker-switch-nzm-mccb-dimensions-016.eps](#)

INSTALLATION VIDEOS

[The new digital NZM Range](#)

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

MCAD MODEL

[DA-CS-nzm3_4p](#)

[DA-CD-nzm3_4p](#)

PEP ECO-PASSPORT

[eaton-molded-case-switches-pep-eato-00244-v0101-en.pdf](#)

TECHNICAL DATA SHEETS

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

IMPACT	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	Withdrawable Built-in device slide-in technique (withdrawable)
CLIMATIC PROOFING	Damp heat, cyclic, to IEC 60068-2-30 Damp heat, constant, to IEC 60068-2-78
EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT	96.48 W
UTILIZATION CATEGORY	A (IEC/EN 60947-2)
ISOLATION	300 V AC (between the auxiliary contacts) 500 V AC (between auxiliary contacts and main contacts)
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
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	Screw connection
CURRENT RATING OF NEUTRAL CONDUCTOR	60% of phase conductor 250 A
LIFESPAN, MECHANICAL	15000 operations
OVERVOLTAGE CATEGORY	III
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)
NUMBER OF POLES	Four-pole
TERMINAL CAPACITY (COPPER STRIP)	Max. 10 segments of 24 mm x 1 mm + 5 segments of 24 mm x 1 mm Max. 8 segments of 24 mm x 1 mm (2x) at box terminal Max. 10 segments of 32 mm x 1 mm + 5 segments of 32 mm x 1 mm at rear-side connection (punched)

	<p>Min. 6 segments of 16 mm x 0.8 mm at rear-side connection (punched)</p> <p>Min. 6 segments of 16 mm x 0.8 mm at box terminal</p> <p>10 segments of 50 mm x 1 mm (2x) at rear-side width extension</p>
LIFESPAN, ELECTRICAL	<p>5000 operations at 400 V AC-1</p> <p>5000 operations at 415 V AC-1</p> <p>2000 operations at 690 V AC-3</p> <p>2000 operations at 400 V AC-3</p> <p>2000 operations at 415 V AC-3</p> <p>3000 operations at 690 V AC-1</p>
FUNCTIONS	<p>Integrated earth fault protection</p> <p>System and cable protection</p>
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: 400 A • Reduced neutral conductor protection • Set value in neutral conductor is synchronous with set value I_r of main pole. • R.m.s. value measurement and "thermal memory" • Earth-fault release: Not dependent on

	<p>mains and control voltages</p> <ul style="list-style-type: none"> • $I_g = 0.35 - 0.4 - 0.5 - 0.6 - 0.7 - 0.8 - 0.9 - 1.0 \times I_n$ • $t_g = 0 - 20 - 60 - 100 - 200 - 300 - 500 - 750 - 1000 \text{ ms}$ • Terminal capacity hint: Up to 240 mm^2 can be connected depending on the cable manufacturer.
APPLICATION	Use in unearthing supply systems at 690 V
SHOCK RESISTANCE	20 g (half-sinusoidal shock 20 ms)
POSITION OF CONNECTION FOR MAIN CURRENT CIRCUIT	Front side
RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	400 A
RELEASE SYSTEM	Electronic release
SHORT-CIRCUIT TOTAL BREAKTIME	< 10 ms
RATED SHORT-TIME WITHSTAND CURRENT (T = 0.3 S)	3.3 kA
RATED SHORT-TIME WITHSTAND CURRENT (T = 1 S)	3.3 kA
SHORT-CIRCUIT RELEASE NON-DELAYED SETTING - MAX	4400 A
SHORT-CIRCUIT RELEASE NON-DELAYED SETTING - MIN	800 A
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)	Max. 10 mm x 50 mm (2x) at rear-side width extension Max. 30 mm x 10 mm + 30 mm x 5 mm direct at switch rear-side connection Min. 20 mm x 5 mm direct

	at switch rear-side connection M10 at rear-side screw connection
TERMINAL CAPACITY (COPPER SOLID CONDUCTOR/CABLE)	16 mm ² (1x) direct at switch rear-side connection 300 mm ² (2x) at rear-side width extension 16 mm ² (1x) at tunnel terminal 16 mm ² (2x) direct at switch rear-side connection 16 mm ² (2x) at box terminal
TERMINAL CAPACITY (ALUMINUM SOLID CONDUCTOR/CABLE)	16 mm ² (1x) at tunnel terminal
TERMINAL CAPACITY (COPPER STRANDED CONDUCTOR/CABLE)	25 mm ² - 120 mm ² (2x) at box terminal 25 mm ² - 240 mm ² (2x) direct at switch rear-side connection 35 mm ² - 240 mm ² (1x) at box terminal 25 mm ² - 240 mm ² (1x) direct at switch rear-side connection 16 mm ² - 185 mm ² (1x) at 1-hole tunnel terminal
TERMINAL CAPACITY (ALUMINUM STRANDED CONDUCTOR/CABLE)	25 mm ² - 185 mm ² (1x) at tunnel terminal 50 mm ² - 240 mm ² (2x) at 2-hole tunnel terminal 50 mm ² - 240 mm ² (1x) at 2-hole tunnel terminal
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	4400 A
INSTANTANEOUS CURRENT SETTING (II) - MIN	800 A
NUMBER OF OPERATIONS PER HOUR - MAX	60
OVERLOAD CURRENT	400 A

SETTING (IR) - MAX**OVERLOAD CURRENT**

200 A

SETTING (IR) - MIN**OVERLOAD CURRENT**

125 A - 250 A

SETTING (IR)**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 V,****50/60 Hz**

130 kA

RATED SHORT-CIRCUIT**BREAKING CAPACITY ICS****(IEC/EN 60947) AT 525 V,****50/60 Hz**

33 kA

RATED SHORT-CIRCUIT**BREAKING CAPACITY ICS****(IEC/EN 60947) AT 690 V,****50/60 Hz**

9 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**

143 kA

RATED SHORT-CIRCUIT**MAKING CAPACITY ICM****AT 690 V, 50/60 Hz**

74 kA

STANDARD TERMINALS

Screw terminal

OPTIONAL TERMINALSBox terminal. Connection
on rear. Tunnel terminal**RATED SHORT-CIRCUIT****MAKING CAPACITY ICM****AT 240 V, 50/60 Hz**

330 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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