

Specifications



Photo is representative

Eaton 269193

Eaton Moeller series NZM - Molded Case Circuit Breaker. Circuit-breaker, 3p, 40A, H2-AF40-NA

General specifications

PRODUCT NAME	Eaton Moeller series NZM molded case circuit breaker thermo-magnetic
CATALOG NUMBER	269193
MODEL CODE	NZMH2-AF40-NA
EAN	4015082691936
PRODUCT LENGTH/DEPTH	149 mm
PRODUCT HEIGHT	195 mm
PRODUCT WIDTH	105 mm
PRODUCT WEIGHT	2.398 kg
COMPLIANCES	RoHS conform
CERTIFICATIONS	Specially designed for North America CSA (Class No. 1432-01) CSA certified CE marking UL listed IEC 60947-2 IEC/EN 60947 IEC UL 489 CSA-C22.2 No. 5-09 UL/CSA UL (Category Control Number DIVQ) UL (File No. E31593) CSA (File No. 22086)

Product specifications

AMPERAGE RATING	40 A
VOLTAGE RATING	690 V - 690 V
CIRCUIT BREAKER FRAME TYPE	NZM2
FEATURES	Protection unit Motor drive optional
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](#)

[eaton-circuit-breaker-nzm-mccb-characteristic-curve-040.eps](#)

CHARACTERISTIC CURVE

[eaton-circuit-breaker-current-nzm-mccb-characteristic-curve-005.eps](#)

[eaton-circuit-breaker-nzm-mccb-characteristic-curve-050.eps](#)

DECLARATIONS OF CONFORMITY

[eaton-molded-case-circuit-breaker-declaration-of-conformity-eu250290en.pdf](#)

[eaton-circuit-breaker-nzm-mccb-dimensions-019.eps](#)

DRAWINGS

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

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

ECAD MODEL

[ETN.269193.edz](#)

INSTALLATION INSTRUCTIONS

[eaton-circuit-breakers-basic-device-nzm2-il01206006z.pdf](#)

INSTALLATION VIDEOS

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

[The new digital NZM Range](#)

MCAD MODEL

[DA-CS-nzm2_3p](#)

[DA-CD-nzm2_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	DIN rail (top hat rail) mounting optional Fixed Built-in device fixed built-in technique
CLIMATIC PROOFING	Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30
EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT	13.44 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	-25 °C

TEMPERATURE - MIN	
AMBIENT STORAGE TEMPERATURE - MAX	70 °C
AMBIENT STORAGE TEMPERATURE - MIN	40 °C
LOW-VOLTAGE HBC FUSE - MAX	355 A gG/gL
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 IP20 (basic degree of protection, in the operating controls area)
DIRECTION OF INCOMING SUPPLY	As required
ELECTRICAL CONNECTION TYPE OF MAIN CIRCUIT	Screw connection
LIFESPAN, MECHANICAL	20000 operations
OVERVOLTAGE CATEGORY	III
RATED OPERATIONAL CURRENT	40 A (660-690 V AC-3, making and breaking capacity) 300 A (415 V AC-1, making and breaking capacity) 300 A (380/400 V AC-1, making and breaking capacity) 40 A (690 V AC-1, making and breaking capacity)
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	Three-pole

TERMINAL CAPACITY (COPPER STRIP)	<p>Max. 10 segments of 16 mm x 0.8 mm at box terminal</p> <p>Min. 2 segments of 9 mm x 0.8 mm at box terminal</p> <p>Max. 10 segments of 16 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>
LIFESPAN, ELECTRICAL	<p>10000 operations at 400 V AC-1</p> <p>6500 operations at 400 V AC-3</p> <p>7500 operations at 690 V AC-1</p> <p>6500 operations at 415 V AC-3</p> <p>5000 operations at 690 V AC-3</p>
FUNCTIONS	<p>Current limiting circuit breaker</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: 40 A • Switches conform to UL/CSA as well as the IEC regulations. IEC switching performance values are contained on the rating plate. • Fixed overload releases I_r

APPLICATION	<ul style="list-style-type: none"> • Branch circuits, feeder circuits • Use in unearthed 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)	40 A
POWER LOSS	13.4 W
RELEASE SYSTEM	Thermomagnetic release
SHORT-CIRCUIT TOTAL BREAKTIME	< 10 ms
RATED SHORT-TIME WITHSTAND CURRENT (T = 0.3 S)	1.9 kA
RATED SHORT-TIME WITHSTAND CURRENT (T = 1 S)	1.9 kA
SHORT-CIRCUIT RELEASE NON-DELAYED SETTING - MAX	400 A
SHORT-CIRCUIT RELEASE NON-DELAYED SETTING - MIN	320 A
TERMINAL CAPACITY (CONTROL CABLE)	14 mm ² - 18 mm ² (1x) 16 mm ² - 18 mm ² (2x)
TERMINAL CAPACITY (COPPER BUSBAR)	M8 at rear-side screw connection Max. 20 mm x 5 mm direct at switch rear-side connection Min. 16 mm x 5 mm direct at switch rear-side connection
TERMINAL CAPACITY (COPPER SOLID CONDUCTOR/CABLE)	6 mm ² - 11 mm ² (1x) direct at switch rear-side connection 6 mm ² - 12 mm ² (1x) at box terminal 16 mm ² (1x) at tunnel terminal
TERMINAL CAPACITY (ALUMINUM SOLID CONDUCTOR/CABLE)	16 mm ² (1x) at tunnel terminal

TERMINAL CAPACITY (COPPER STRANDED CONDUCTOR/CABLE)	4 mm ² - 350 mm ² (1x) at tunnel terminal 4 mm ² - 350 mm ² (1x) at box terminal 4 mm ² - 3/0 mm ² (1x) direct at switch rear-side connection
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	10 A
INSTANTANEOUS CURRENT SETTING (II) - MIN	8 A
NUMBER OF OPERATIONS PER HOUR - MAX	120
OVERLOAD CURRENT SETTING (IR) - MAX	40 A
OVERLOAD CURRENT SETTING (IR) - MIN	40 A
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	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 400/415 V, 50/60 Hz	330 kA
RATED SHORT-CIRCUIT MAKING CAPACITY ICM	286 kA

AT 440 V, 50/60 HZ

RATED SHORT-CIRCUIT	
MAKING CAPACITY ICM	105 kA
AT 525 V, 50/60 HZ	

RATED SHORT-CIRCUIT	
MAKING CAPACITY ICM	40 kA
AT 690 V, 50/60 HZ	

STANDARD TERMINALS	Screw terminal
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RATED OPERATING	
VOLTAGE UE (UL) - MAX	600Y/347 V, 480 V

RATED SHORT-CIRCUIT	
MAKING CAPACITY ICM	330 kA
AT 240 V, 50/60 HZ	

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

RATED IMPULSE	
WITHSTAND VOLTAGE	
(UIMP) AT MAIN	8000 V
CONTACTS	

RATED INSULATION	
VOLTAGE (UI)	1000 V AC

PROJECT NAME:

PROJECT NUMBER:

PREPARED BY:

DATE:**Eaton Corporation plc**

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