DATASHEET - NZMB2-A160-NA

Circuit-breaker, 3p, 160A

Part no.

NZMB2-A160-NA 269215



General specifications	
Product name	Eaton Moeller series NZM molded case circuit breaker thermo-magnetic
Part no.	NZMB2-A160-NA
EAN	4015082692155
Product Length/Depth	149 millimetre
Product height	195 millimetre
Product width	105 millimetre
Product weight	2.386 kilogram
Compliances	RoHS conform
Certifications	IEC CSA certified UL listed UL 489 CSA-C22.2 No. 5-09 UL (Category Control Number DIVΩ) CSA (File No. 22086) UL/CSA CE marking UL (File No. E31593) IEC/EN 60947 Specially designed for North America IEC 60947-2 CSA (Class No. 1432-01)
Product Tradename	NZM
Product Type	Molded case circuit breaker
Product Sub Type	Thermo-magnetic
Delivery program	
Application	Branch circuits, feeder circuits Use in unearthed supply systems at 440 V
Туре	Circuit breaker
Circuit breaker frame type	NZM2
Number of poles	Three-pole
Amperage Rating	160 A
Release system	Thermomagnetic release
Features	Protection unit Motor drive optional
Special features	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 Icn) Rated current = rated uninterrupted current: 160 A Switches conform to UL/CSA as well as the IEC regulations. IEC switching performance values are contained on the rating plate. Adjustable overload releases Ir
Fechnical Data - Electrical	
Voltage rating	440 V - 440 V
Rated operating voltage Ue (UL) - max	600Y/347 V, 480 V
Rated insulation voltage (Ui)	690 V AC
Rated impulse withstand voltage (Uimp) at auxiliary contacts	6000 V
Rated impulse withstand voltage (Uimp) at main contacts	8000 V
Rated operational current	300 A (380/400 V AC-1, making and breaking capacity) 300 A (415 V AC-1, making and breaking capacity)
Instantaneous current setting (li) - min	960 A
Instantaneous current setting (li) - max	1600 A
Overload current setting (Ir) - min	125 A
Overload current setting (Ir) - max	160 A
Short delay current setting (Isd) - min	0 A
Short delay current setting (Isd) - max	0 A

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Technical Data - Mechanical - TerminalsStandard terminalsTerminal capacity (control cable)Terminal capacity (control cable)Terminal capacity (aluminum solid conductor/cable)Terminal capacity (aluminum solid conductor/cable)Terminal capacity (copper busbar)Terminal capacity (copper solid conductor/cable)Terminal capacity (copper stranded conductor/cable)Terminal capacity (copper stranded conductor/cable)Terminal capacity (copper stranded conductor/cable)Terminal capacity (copper strip)Max. 10 segments of 16 mm x 0.8 mm at tox terminal Max. 10 segments of 16 mm x 0.8 mm at tear-side connection (punched)	Special features	location exceed the switching capacity of the circuit breaker (Rated short-circuit breaking capacity Icn) Rated current = rated uninterrupted current: 160 A Switches conform to UL/CSA as well as the IEC regulations. IEC switching performance values are contained on the rating plate.
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Terminal capacity (copper solid conductor/cable) Max. 20 mm x 5 mm direct at switch rear-side connection Terminal capacity (copper solid conductor/cable) In mm² (1x) at tunnel terminal 6 mm² (1x) at tunnel terminal 6 mm² (1x) at tunnel terminal 6 mm² (1x) direct at switch rear-side connection Terminal capacity (copper stranded conductor/cable) In mm² (1x) at tunnel terminal 4 mm² (1x) direct at switch rear-side connection Terminal capacity (copper stranded conductor/cable) In mm² (1x) direct at switch rear-side connection Terminal capacity (copper stranded conductor/cable) In m² (1x) at tunnel terminal 4 mm² - 300 mm² (1x) at tunnel terminal 4 mm² - 300 mm² (1x) direct at switch rear-side connection Terminal capacity (copper strip) Interminal 4 mm² - 350 mm² (1x) at tunnel terminal 4 mm² - 350 mm² (1x) at box terminal Max. 10 segments of 16 mm x 0.8 mm at tear-side connection (punched) Max. 10 segments of 16 mm x 0.8 mm at tear-side connection (punched)	Terminal capacity (aluminum solid conductor/cable)	16 mm ² (1x) at tunnel terminal
Terminal capacity (copper stranded conductor/cable) 6 mm² - 12 mm² (1x) at box terminal 6 mm² - 11 mm² (1x) direct at switch rear-side connection Terminal capacity (copper strip) 4 mm² - 350 mm² (1x) at tunnel terminal 4 mm² - 350 mm² (1x) direct at switch rear-side connection 4 mm² - 350 mm² (1x) at box terminal Terminal capacity (copper strip) Max. 10 segments of 16 mm x 0.8 mm at box terminal Max. 10 segments of 16 mm x 0.8 mm at rear-side connection (punched) Min. 2 segments of 16 mm x 0.8 mm at rear-side connection (punched)	Terminal capacity (copper busbar)	Max. 20 mm x 5 mm direct at switch rear-side connection
Terminal capacity (copper strip) 4 mm² - 3/0 mm² (1x) direct at switch rear-side connection 4 mm² - 350 mm² (1x) at box terminal Max. 10 segments of 16 mm x 0.8 mm at box terminal Max. 10 segments of 16 mm x 0.8 mm at rear-side connection (punched) Min. 2 segments of 16 mm x 0.8 mm at rear-side connection (punched) Min. 2 segments of 16 mm x 0.8 mm at rear-side connection (punched)	Terminal capacity (copper solid conductor/cable)	6 mm ² - 12 mm ² (1x) at box terminal
Max. 10 segments of 16 mm x 0.8 mm at rear-side connection (punched) Min. 2 segements of 16 mm x 0.8 mm at rear-side connection (punched)	Terminal capacity (copper stranded conductor/cable)	4 mm ² - 3/0 mm ² (1x) direct at switch rear-side connection
	Terminal capacity (copper strip)	Max. 10 segments of 16 mm x 0.8 mm at rear-side connection (punched) Min. 2 segements of 16 mm x 0.8 mm at rear-side connection (punched)

Design verification as per IEC/EN 61439 - technical data	
Rated operational current for specified heat dissipation (In)	160 A
Equipment heat dissipation, current-dependent	38.4 W
Ambient operating temperature - min	-25 °C
Ambient operating temperature - max	70 °C
Ambient storage temperature - min	40 °C
Ambient storage temperature - max	70 °C
Design verification as per IEC/EN 61439	
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.
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.
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.
Additional information	
Functions	System and cable protection Current limiting circuit breaker

Technical data ETIM 9.0

Low-voltage industrial components (EG000017) / Power circuit-breaker for trafo/generator/installation protection (EC000228)

Electric engineering, automation, process control engineering / Low-voltage switch technology / Circuit breaker (LV < 1 kV) / Circuit breaker for power transformer, generator and system protection (ecl@ss13-27-37-04-09 [AJZ716018])

Rated permanent current lu	А	160
Rated voltage	V	440 - 440
Rated short-circuit breaking capacity Icu at 400 V, 50 Hz	kA	25
Overload release current setting	А	125 - 160
Adjustment range short-term delayed short-circuit release	А	0 - 0
Adjustment range undelayed short-circuit release	А	960 - 1600
Power loss	W	38.4
Device construction		Built-in device fixed built-in technique
Integrated earth fault protection		No
Type of electrical connection of main circuit		Screw connection
Suitable for DIN rail (top hat rail) mounting		No
DIN rail (top hat rail) mounting optional		Yes
Number of auxiliary contacts as normally closed contact		0
Number of auxiliary contacts as normally open contact		0
Number of auxiliary contacts as change-over contact		0
With switched-off indicator		No

With integrated under voltage release	No
Number of poles	3
Position of connection for main current circuit	Front side
Type of control element	Rocker lever
Complete device with protection unit	Yes
Motor drive integrated	No
Motor drive optional	Yes
Degree of protection (IP)	IP20