DATASHEET - NZMN1-AF40-NA

Circuit-breaker, 3p, 40A

Part no.

NZMN1-AF40-NA 274223



General specifications	
Product name	Eaton Moeller series NZM molded case circuit breaker thermo-magnetic
Part no.	NZMN1-AF40-NA
EAN	4015082742232
Product Length/Depth	88 millimetre
Product height	165.5 millimetre
Product width	90 millimetre
Product weight	1.046 kilogram
Compliances	RoHS conform
Certifications	UL 489 CSA (File No. 22086) UL/CSA UL (Category Control Number DIVQ) UL (File No. E31593) IEC/EN 60947 IEC 60947-2 CSA certified CE marking IEC Specially designed for North America CSA-C22.2 No. 5-09 UL listed 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 690 V
Туре	Circuit breaker
Circuit breaker frame type	NZM1
Number of poles	Three-pole
Amperage Rating	40 A
Release system	Thermomagnetic release
Features	Protection unit
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: 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 Ir
Technical Data - Electrical	
Voltage rating	690 V - 690 V
Rated operating voltage Ue (UL) - max	480 Y / 277 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	6000 V
Rated operational current	160 A (380/400 V AC-1, making and breaking capacity) 40 A (690 V AC-1, making and breaking capacity) 125 A (415 V AC-1, making and breaking capacity) 40 A (660-690 V AC-3, making and breaking capacity)
Instantaneous current setting (li) - min	8 A
Instantaneous current setting (li) - max	10 A
Overload current setting (Ir) - min	40 A
Overload current setting (Ir) - max	40 A
Short delay current setting (Isd) - min	0 A
Short delay current setting (Isd) - max	0 A

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Parted short-circuit making spacehy loss at 50 V, 5000 Hz 40 Å Rated short-circuit making spacehy loss at 50 V, 5000 Hz 17 Å Short-circuit making spacehy loss at 50 V, 5000 Hz 200 Å pG(g). Exercise La connection type of main circuit 200 Å pG(g). Exercise La connection type of main circuit 200 Å pG(g). Number of spacehar	Rated short-circuit making capacity Icm at 400/415 V, 50/60 Hz	105 kA
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Sport-circuited brackfine < 10 ms	Rated short-circuit making capacity Icm at 525 V, 50/60 Hz	40 kA
Lew vehtage H8C has - max 200 A gGgL Betterial connection type of main circuit Frame clamp Isolation 300 VAC between auditry contacts and main contacts) Number of operations get hour - max 100 Hendit type Reference in the auditry contacts) Decombrage category 100 Decombrage category 111 Decombrage category 112 Decombrage category 112 Decombrage category 112	Rated short-circuit making capacity Icm at 690 V, 50/60 Hz	17 kA
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Image: biologic biologi		Damp heat, cyclic, to IEC 60068-2-30
Technical Data - Mechanical - Terminals Box terminal Standard terminals Box terminal Terminal capacity (control cable) 14 mm² - 18 mm² (1x) 16 mm² - 18 mm² (2x) Terminal capacity (aluminum solid conductor/cable) 16 mm² (1x) at tunnel terminal Terminal capacity (copper busbar) 16 mm² (1x) at tunnel terminal Terminal capacity (copper solid conductor/cable) 16 mm² - 95 mm² (1x) at tunnel terminal Terminal capacity (copper solid conductor/cable) 16 mm² - 95 mm² (1x) at tunnel terminal	Special features	location exceed the switching capacity of the circuit breaker (Rated short-circuit breaking capacity Icn) 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.
Standard terminals Box terminal Terminal capacity (control cable) 14 mm² - 18 mm² (1x) 16 mm² - 18 mm² (2x) Terminal capacity (aluminum solid conductor/cable) 16 mm² (1x) at tunnel terminal Terminal capacity (copper busbar) 16 mm² - 18 mm² (1x) 16 mm² - 18 mm² (1x) Terminal capacity (copper solid conductor/cable) 16 mm² - 95 mm² (1x) at tunnel terminal 6 mm² - 95 mm² (1x) at tunnel terminal 6 mm² - 95 mm² (1x) direct at switch rear-side connection 6 mm² - 9 mm² (2x) direct at switch rear-side connection	Lifespan, mechanical	20000 operations
Terminal capacity (control cable) 14 mm² - 18 mm² (1x) 16 mm² - 18 mm² (2x) Terminal capacity (aluminum solid conductor/cable) 16 mm² (1x) at tunnel terminal Terminal capacity (copper busbar) 16 mm² (1x) at tunnel terminal Terminal capacity (copper solid conductor/cable) 16 mm² (1x) at tunnel terminal Terminal capacity (copper solid conductor/cable) 16 mm² (1x) at tunnel terminal Terminal capacity (copper solid conductor/cable) 16 mm² (1x) at tunnel terminal Terminal capacity (copper solid conductor/cable) 16 mm² - 95 mm² (1x) at tunnel terminal 6 mm² - 12 mm² (1x) direct at switch rear-side connection 6 mm² - 9 mm² (2x) direct at switch rear-side connection	Technical Data - Mechanical - Terminals	
Terminal capacity (control cable) 14 mm² - 18 mm² (1x) 16 mm² - 18 mm² (2x) Terminal capacity (aluminum solid conductor/cable) 16 mm² (1x) at tunnel terminal Terminal capacity (copper busbar) 16 mm² (1x) at tunnel terminal Terminal capacity (copper busbar) 16 mm² (1x) at tunnel terminal Terminal capacity (copper solid conductor/cable) 16 mm² (1x) at tunnel terminal Terminal capacity (copper solid conductor/cable) 16 mm² (1x) at tunnel terminal Terminal capacity (copper solid conductor/cable) 16 mm² - 95 mm² (1x) at tunnel terminal 6 mm² - 12 mm² (1x) direct at switch rear-side connection 6 mm² - 9 mm² (2x) direct at switch rear-side connection	Standard terminals	Box terminal
Terminal capacity (aluminum solid conductor/cable) 16 mm² - 18 mm² (2x) Terminal capacity (copper busbar) 16 mm² (1x) at tunnel terminal Terminal capacity (copper solid conductor/cable) Min. 12 mm x 5 mm direct at switch rear-side connection M8 at rear-side screw connection M8 at rear-side screw connection Terminal capacity (copper solid conductor/cable) 16 mm² - 95 mm² (1x) at tunnel terminal 6 mm² - 95 mm² (1x) direct at switch rear-side connection 6 mm² - 9 mm² (2x) direct at switch rear-side connection		
Terminal capacity (copper busbar) Min. 12 mm x 5 mm direct at switch rear-side connection Min. 12 mm x 5 mm direct at switch rear-side connection M8 at rear-side screw connection Max. 16 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) Min. 12 mm x 5 mm direct at switch rear-side connection 6 mm² - 95 mm² (1x) at tunnel terminal 6 mm² - 12 mm² (1x) direct at switch rear-side connection		
M8 at rear-side screw connection Max. 16 mm x 5 mm direct at switch rear-side connection Terminal capacity (copper solid conductor/cable) M8 at rear-side screw connection Max. 16 mm² - 95 mm² (1x) at tunnel terminal 6 mm² - 12 mm² (1x) direct at switch rear-side connection 6 mm² - 9 mm² (2x) direct at switch rear-side connection	Terminal capacity (aluminum solid conductor/cable)	16 mm ² (1x) at tunnel terminal
6 mm ² - 12 mm ² (1x) direct at switch rear-side connection 6 mm ² - 9 mm ² (2x) direct at switch rear-side connection	Terminal capacity (copper busbar)	M8 at rear-side screw connection
Emme 19 mme / 1. at her starming	Terminal capacity (copper solid conductor/cable)	6 mm ² - 12 mm ² (1x) direct at switch rear-side connection

Terminal capacity (copper stranded conductor/cable)	25 mm ² (2x) at box terminal 25 mm ² - 70 mm ² (1x) at box terminal 4 mm ² - 2/0 mm ² (1x) direct at switch rear-side connection 4 mm ² - 3/0 mm ² (1x) at tunnel terminal
Terminal capacity (copper strip)	Max. 9 segments of 9 mm x 0.8 mm at box terminal Min. 2 segments of 9 mm x 0.8 mm at box terminal
Design verification as per IEC/EN 61439 - technical data	
Rated operational current for specified heat dissipation (In)	40 A
Equipment heat dissipation, current-dependent	10.66 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	40
Rated voltage	V	690 - 690
Rated short-circuit breaking capacity Icu at 400 V, 50 Hz	kA	50
Overload release current setting	А	40 - 40
Adjustment range short-term delayed short-circuit release	А	0 - 0
Adjustment range undelayed short-circuit release	А	8 - 10
Power loss	W	10.7
Device construction		Built-in device fixed built-in technique
Integrated earth fault protection		No
Type of electrical connection of main circuit		Frame clamp
Suitable for DIN rail (top hat rail) mounting		No

Motor drive integrated	No
Type of control element Complete device with protection unit	Rocker lever Yes
Position of connection for main current circuit	Front side
Number of poles	3
With integrated under voltage release	No
With switched-off indicator	No
Number of auxiliary contacts as change-over contact	0
Number of auxiliary contacts as normally open contact	0
Number of auxiliary contacts as normally closed contact	0