

Circuit-breaker, 3p, 12A, short-circuit protective device



**Part no.** **NZMH2-S12-CNA**  
**103048**

Product name	Eaton Moeller series NZM - Molded Case Circuit Breaker
Part no.	NZMH2-S12-CNA
EAN	4015081028870
Product Length/Depth	149 millimetre
Product height	195 millimetre
Product width	105 millimetre
Product weight	2.345 kilogram
Compliances	RoHS conform
Certifications	UL (File No. E31593) UL listed CSA (File No. 22086) UL/CSA CSA-C22.2 No. 5-09 CSA certified CSA (Class No. 1432-01) Specially designed for North America UL 489 UL (Category Control Number DKPU2)
Product Tradename	NZM
Product Type	Molded Case Circuit Breaker
Product Sub Type	None
Application	Branch circuits, feeder circuits
Type	Circuit breaker
Number of poles	Three-pole
Amperage Rating	12 A
Release system	Thermomagnetic release
Special features	Rated current = rated uninterrupted current: 12 A This circuit-breaker is only allowed to be used for UL/CSA applications. Motor protection in conjunction with contactor and overload relay With short-circuit release Without overload release Ir
Voltage rating	690 V - 690 V
Rated operating voltage Ue (UL) - max	600 Y / 347 V, 480 V
Rated insulation voltage (Ui)	1000 V
Rated impulse withstand voltage (Uimp) at auxiliary contacts	6000 V
Rated impulse withstand voltage (Uimp) at main contacts	8000 V
Rated short-time withstand current (t = 0.3 s)	1.9 kA
Rated short-time withstand current (t = 1 s)	1.9 kA
Instantaneous current setting (Ii) - min	84 A
Instantaneous current setting (Ii) - max	144 A
Overload current setting (Ir) - min	0 A
Overload current setting (Ir) - max	0 A
Short-circuit release non-delayed setting - min	84 A
Short-circuit release non-delayed setting - max	144 A
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	150 kA
Rated operating power at AC-3, 230 V	3 kW
Rated operating power at AC-3, 400 V	5.5 kW
Short-circuit total breaktime	< 10 ms
Electrical connection type of main circuit	Screw connection
Isolation	300 V AC (between the auxiliary contacts) 500 V AC (between auxiliary contacts and main contacts)
Number of operations per hour - max	120

Handle type		Rocker lever
Overvoltage category		III
Pollution degree		3
Lifespan, electrical		10000 operations at 400 V AC-1 7500 operations at 690 V AC-1 6500 operations at 415 V AC-3 5000 operations at 690 V AC-3 6500 operations at 400 V AC-3
Direction of incoming supply		As required
Mounting Method		Built-in device fixed built-in technique Fixed
Degree of protection		IP20 (basic degree of protection, in the operating controls area) IP20
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)
Protection against direct contact		Finger and back-of-hand proof to VDE 0106 part 100
Shock resistance		20 g (half-sinusoidal shock 20 ms)
Switch off technique		Magnetic
Climatic proofing		Damp heat, cyclic, to IEC 60068-2-30 Damp heat, constant, to IEC 60068-2-78
Special features		Rated current = rated uninterrupted current: 12 A This circuit-breaker is only allowed to be used for UL/CSA applications. Motor protection in conjunction with contactor and overload relay With short-circuit release Without overload release I r
Lifespan, mechanical		20000 operations
Standard terminals		Screw terminal
Terminal capacity (control cable)		16 mm <sup>2</sup> - 18 mm <sup>2</sup> (2x) 14 mm <sup>2</sup> - 18 mm <sup>2</sup> (1x)
Terminal capacity (aluminum solid conductor/cable)		16 mm <sup>2</sup> (1x) at tunnel terminal
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 <sup>2</sup> (1x) at tunnel terminal 6 mm <sup>2</sup> - 11 mm <sup>2</sup> (1x) direct at switch rear-side connection 6 mm <sup>2</sup> - 12 mm <sup>2</sup> (1x) at box terminal
Terminal capacity (copper stranded conductor/cable)		4 mm <sup>2</sup> - 3/0 mm <sup>2</sup> (1x) direct at switch rear-side connection 4 mm <sup>2</sup> - 350 mm <sup>2</sup> (1x) at tunnel terminal 4 mm <sup>2</sup> - 350 mm <sup>2</sup> (1x) at box terminal
Terminal capacity (copper strip)		Max. 10 segments of 16 mm x 0.8 mm at box terminal Min. 2 segments of 16 mm x 0.8 mm at rear-side connection (punched) Min. 2 segments of 9 mm x 0.8 mm at box terminal Max. 10 segments of 16 mm x 0.8 mm at rear-side connection (punched)
Rated operational current for specified heat dissipation (I <sub>n</sub> )		12 A
Equipment heat dissipation, current-dependent		0.52 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
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.
Functions		Short-circuit protection

## Technical data ETIM 8.0

Low-voltage industrial components (EG000017) / Motor protection circuit-breaker (EC000074)		
Electric engineering, automation, process control engineering / Low-voltage switch technology / Circuit breaker (LV < 1 kV) / Motor protection circuit-breaker (ecl@ss10.0.1-27-37-04-01 [AGZ529016])		
Overload release current setting	A	0 - 0
Adjustment range undelayed short-circuit release	A	84 - 144
With thermal protection		No
Phase failure sensitive		No
Switch off technique		Magnetic
Rated operating voltage	V	690 - 690
Rated permanent current I <sub>u</sub>	A	12
Rated operation power at AC-3, 230 V	kW	3
Rated operation power at AC-3, 400 V	kW	5.5
Type of electrical connection of main circuit		Screw connection
Type of control element		Rocker lever
Device construction		Built-in device fixed built-in technique
With integrated auxiliary switch		No
With integrated under voltage release		No
Number of poles		3
Rated short-circuit breaking capacity I <sub>cu</sub> at 400 V, AC	kA	150
Degree of protection (IP)		IP20
Height	mm	195
Width	mm	105
Depth	mm	149