

Circuit-breaker, 3p, 33A



**Part no. NZMN1-S33-CNA  
103033**

<b>General specifications</b>		
Product name		Eaton Moeller series NZM - Molded Case Circuit Breaker
Part no.		NZMN1-S33-CNA
EAN		4015081028726
Product Length/Depth		88 millimetre
Product height		165.5 millimetre
Product width		90 millimetre
Product weight		1.046 kilogram
Compliances		RoHS conform
Certifications		UL (Category Control Number DKPU2) Specially designed for North America CSA-C22.2 No. 5-09 UL listed CSA (Class No. 1432-01) UL 489 CSA certified CSA (File No. 22086) UL (File No. E31593) UL/CSA
Product Tradename		NZM
Product Type		Molded Case Circuit Breaker
Product Sub Type		None
<b>Delivery program</b>		
Application		Branch circuits, feeder circuits
Type		Circuit breaker
Number of poles		Three-pole
Amperage Rating		33 A
Release system		Thermomagnetic release
Special features		Rated current = rated uninterrupted current: 33 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
<b>Technical Data - Electrical</b>		
Voltage rating		690 V - 690 V
Rated operating voltage Ue (UL) - max		480 Y / 277 V
Rated insulation voltage (Ui)		690 V
Rated impulse withstand voltage (Uimp) at auxiliary contacts		6000 V
Rated impulse withstand voltage (Uimp) at main contacts		6000 V
Instantaneous current setting (Ii) - min		264 A
Instantaneous current setting (Ii) - max		462 A
Overload current setting (Ir) - min		0 A
Overload current setting (Ir) - max		0 A
Short-circuit release non-delayed setting - min		264 A
Short-circuit release non-delayed setting - max		462 A
Rated short-circuit breaking capacity Ics (IEC/EN 60947) at 400/415 V, 50/60 Hz		50 kA
Rated short-circuit breaking capacity Ics (IEC/EN 60947) at 440 V, 50/60 Hz		50 kA
Rated operating power at AC-3, 230 V		7.5 kW
Rated operating power at AC-3, 400 V		15 kW
Short-circuit total breaktime		< 10 ms
Electrical connection type of main circuit		Other
Isolation		500 V AC (between auxiliary contacts and main contacts) 300 V AC (between the auxiliary contacts)
Number of operations per hour - max		120

Handle type		Rocker lever
Overvoltage category		III
Pollution degree		3
Lifespan, electrical		7500 operations at 400 V AC-3 7500 operations at 415 V AC-3 5000 operations at 690 V AC-3
Direction of incoming supply		As required
<b>Technical Data - Mechanical</b>		
Mounting Method		Built-in device fixed built-in technique Fixed
Degree of protection		IP20 IP20 (basic degree of protection, in the operating controls area)
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, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30
Special features		Rated current – rated uninterrupted current: 33 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
Lifespan, mechanical		20000 operations
<b>Technical Data - Mechanical - Terminals</b>		
Standard terminals		Box 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)		Min. 12 mm x 5 mm direct at switch rear-side connection Max. 16 mm x 5 mm direct at switch rear-side connection M6 at rear-side screw connection
Terminal capacity (copper solid conductor/cable)		6 mm <sup>2</sup> - 9 mm <sup>2</sup> (2x) direct at switch rear-side connection 6 mm <sup>2</sup> (1x) at tunnel terminal 6 mm <sup>2</sup> - 12 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) at tunnel terminal 4 mm <sup>2</sup> - 2/0 mm <sup>2</sup> (1x) at box terminal 4 mm <sup>2</sup> - 2/0 mm <sup>2</sup> (1x) direct at switch rear-side connection
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
<b>Design verification as per IEC/EN 61439 - technical data</b>		
Rated operational current for specified heat dissipation (In)		33 A
Equipment heat dissipation, current-dependent		3.43 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
<b>Design verification as per IEC/EN 61439</b>		
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.
<b>Additional information</b>		
Functions		Short-circuit protection

## Technical data ETIM 9.0

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@ss13-27-37-04-01 [AGZ529021])

Overload release current setting	A	0 - 0
Adjustment range undelayed short-circuit release	A	264 - 462
With thermal overload protection		No
Phase failure sensitive		No
Switch off technique		Magnetic
Rated operating voltage	V	690 - 690
Rated permanent current I <sub>u</sub>	A	33
Rated operation power at AC-3, 230 V	kW	7.5
Rated operation power at AC-3, 400 V	kW	15
Power loss	W	3.4
Type of electrical connection of main circuit		Other
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	50
Degree of protection (IP)		IP20
Height	mm	165.5
Width	mm	90
Depth	mm	88