

Circuit-breaker, 3p, 400A, 1000 V

Part no. **NZMH3-VE400-S1**
119367
EL Number **4363150**
(Norway)

General specifications		
Product name		Eaton Moeller series NZM molded case circuit breaker electronic
Part no.		NZMH3-VE400-S1
EAN		4015081175031
Product Length/Depth		166 millimetre
Product height		275 millimetre
Product width		140 millimetre
Product weight		6.34 kilogram
Compliances		RoHS conform
Certifications		IEC
Product Tradename		NZM
Product Type		Molded case circuit breaker
Product Sub Type		Electronic
Delivery program		
Type		Circuit breaker
Circuit breaker frame type		NZM3
Number of poles		Three-pole
Amperage Rating		400 A
Release system		Electronic release
Features		Motor drive optional Protection unit
Special features		Lifespan, mechanical: of which max. 50 % trip by shunt/undervoltage release R.m.s. value measurement and "thermal memory" Adjustable time delay setting to overcome current peaks tr at 6 x Ir also infinity (without overload releases) Adjustable delay time tsd: Steps: 0, 20, 60, 100, 200, 300, 500, 750, 1000 ms i ² t constant function: switchable NZM4...S1 terminal type: Insulated busbar connection (NZM4-XKS screw connection) Rated current = rated uninterrupted current: 400 A Terminal capacity hint: Up to 240 mm ² can be connected depending on the cable manufacturer.
Technical Data - Electrical		
Voltage rating		1000 V - 1000 V
Rated insulation voltage (Ui)		1000 V AC
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)		3.3 kA
Rated short-time withstand current (t = 1 s)		3.3 kA
Instantaneous current setting (Ii) - min		800 A
Instantaneous current setting (Ii) - max		4400 A
Overload current setting (Ir) - min		200 A
Overload current setting (Ir) - max		400 A
Short delay current setting (Isd) - min		400 A
Short delay current setting (Isd) - max		4000 A
Short-circuit release delayed setting - min		400 A
Short-circuit release delayed setting - max		4000 A
Short-circuit release non-delayed setting - min		800 A
Short-circuit release non-delayed setting - max		4400 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		33 kA
Rated short-circuit breaking capacity Ics (IEC/EN 60947) at 690 V, 50/60 Hz		9 kA

Rated short-circuit breaking capacity Ics (IEC/EN 60947) at 1000 V, 50/60 Hz			10 kA
Rated short-circuit making capacity Icm at 240 V, 50/60 Hz			330 kA
Rated short-circuit making capacity Icm at 400/415 V, 50/60 Hz			330 kA
Rated short-circuit making capacity Icm at 440 V, 50/60 Hz			286 kA
Rated short-circuit making capacity Icm at 525 V, 50/60 Hz			143 kA
Rated short-circuit making capacity Icm at 690 V, 50/60 Hz			74 kA
Rated short-circuit making capacity Icm at 1000 V, 50/60 Hz			17 kA
Electrical connection type of main circuit			Screw connection
Number of operations per hour - max			60
Handle type			Rocker lever
Utilization category			A
Overvoltage category			III
Pollution degree			3
Lifespan, electrical			1000 operations at 1000 V AC-1
Technical Data - Mechanical			
Mounting Method			Built-in device fixed built-in technique Fixed
Degree of protection			IP20
Number of auxiliary contacts (change-over contacts)			0
Number of auxiliary contacts (normally closed contacts)			0
Number of auxiliary contacts (normally open contacts)			0
Position of connection for main current circuit			Front side
Special features			Lifespan, mechanical: of which max. 50 % trip by shunt/undervoltage release R.m.s. value measurement and “thermal memory” Adjustable time delay setting to overcome current peaks tr at 6 x Ir also infinity (without overload releases) Adjustable delay time tsd: Steps: 0, 20, 60, 100, 200, 300, 500, 750, 1000 ms i ² t constant function: switchable NZM4...S1 terminal type: Insulated busbar connection (NZM4-XKS screw connection) Rated current = rated uninterrupted current: 400 A Terminal capacity hint: Up to 240 mm ² can be connected depending on the cable manufacturer.
Lifespan, mechanical			15000 operations
Technical Data - Mechanical - Terminals			
Standard terminals			Screw terminal
Terminal capacity (control cable)			0.75 mm ² - 1.5 mm ² (2x) 0.75 mm ² - 2.5 mm ² (1x)
Terminal capacity (aluminum solid conductor/cable)			16 mm ² (1x) at tunnel terminal
Terminal capacity (aluminum stranded conductor/cable)			50 mm ² - 240 mm ² (1x) at 2-hole tunnel terminal 50 mm ² - 240 mm ² (2x) at 2-hole tunnel terminal 25 mm ² - 185 mm ² (1x) at tunnel terminal
Terminal capacity (copper busbar)			Min. 20 mm x 5 mm direct at switch rear-side connection Max. 10 mm x 50 mm (2x) at rear-side width extension M10 at rear-side screw connection Max. 30 mm x 10 mm + 30 mm x 5 mm direct at switch rear-side connection
Terminal capacity (copper solid conductor/cable)			16 mm ² (2x) at box terminal 16 mm ² (1x) direct at switch rear-side connection 10 mm ² - 16 mm ² (2x) direct at switch rear-side connection
Terminal capacity (copper stranded conductor/cable)			25 mm ² - 120 mm ² (2x) direct at switch rear-side connection 25 mm ² - 120 mm ² (1x) direct at switch rear-side connection 35 mm ² - 240 mm ² (1x) at box terminal 25 mm ² - 185 mm ² (1x) at tunnel terminal 25 mm ² - 120 mm ² (2x) at box terminal
Terminal capacity (copper strip)			10 segments of 50 mm x 1 mm (2x) at rear-side width extension Min. 6 segments of 16 mm x 0.8 mm at box terminal Max. 10 segments of 32 mm x 1 mm + 5 segments of 32 mm x 1 mm at rear-side connection (punched) Min. 6 segments of 16 mm x 0.8 mm at rear-side connection (punched) Max. 8 segments of 24 mm x 1 mm (2x) at box terminal Max. 10 segments of 24 mm x 1 mm + 5 segments of 24 mm x 1 mm
Design verification as per IEC/EN 61439 - technical data			
Rated operational current for specified heat dissipation (In)			400 A
Equipment heat dissipation, current-dependent			48 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		Systems, cable, selectivity and generator protection

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 I _u	A	400
Rated voltage	V	1000 - 1000
Rated short-circuit breaking capacity I _{cu} at 400 V, 50 Hz	kA	150
Overload release current setting	A	200 - 400
Adjustment range short-term delayed short-circuit release	A	400 - 4000
Adjustment range undelayed short-circuit release	A	800 - 4400
Power loss	W	
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		No
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

