DATASHEET - NZMH4-VE800

Circuit-breaker, 3p, 800A

Part no.	**NZMH4-VE800**
	265774
EL Number (Norway)	**4358942**

General specifications			
Product name			Eaton Moeller series NZM molded case circuit breaker electronic
Part no.			NZMH4-VE800
EAN			4015082657741
Product Length/Depth			401 millimetre
Product height			207 millimetre
Product width			210 millimetre
Product weight			15.52 kilogram
Compliances			RoHS conform
Certifications			IEC/EN 60947 IEC
Product Tradename			NZM
Product Type			Molded case circuit breaker
Product Sub Type			Electronic
Delivery program			
Application			Use in unearthed supply systems at 690 V
Type			Circuit breaker
Circuit breaker frame type			NZM4
Number of poles			Three-pole
Amperage Rating			800 A
Release system			Electronic release
Features			Motor drive optional 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) 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 i^2t constant function: switchable Rated current = rated uninterrupted current: 800 A
Technical Data - Electrical			
Voltage rating			690 V - 690 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)			19.2 kA
Rated short-time withstand current (t = 1 s)			19.2 kA
Instantaneous current setting (Ii) - min			1600 A
Instantaneous current setting (Ii) - max			9600 A
Overload current setting (Ir) - min			400 A
Overload current setting (Ir) - max			800 A
Short delay current setting (Isd) - min			800 A
Short delay current setting (Isd) - max			8000 A
Short-circuit release delayed setting - min			800 A
Short-circuit release delayed setting - max			8000 A
Short-circuit release non-delayed setting - min			1600 A
Short-circuit release non-delayed setting - max			9600 A
Rated short-circuit breaking capacity Ics (IEC/EN 60947) at 230 V, 50/60 Hz			63 kA
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 short-circuit breaking capacity Ics (IEC/EN 60947) at 525 V, 50/60 Hz			50 kA

Rated short-circuit breaking capacity Ics (IEC/EN 60947) at 690 V, 50/60 Hz	37 kA
Rated short-circuit making capacity Icm at 240 V, 50/60 Hz	275 kA
Rated short-circuit making capacity Icm at 400/415 V, 50/60 Hz	187 kA
Rated short-circuit making capacity Icm at 440 V, 50/60 Hz	187 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	100 kA
Short-circuit total breaktime	< 25 ms (≦ 415 V); < 35 ms (> 415 V)
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	60
Handle type	Rocker lever
Utilization category	B (IEC/EN 60947-2)
Overvoltage category	III
Pollution degree	3
Lifespan, electrical	2000 operations at 690 V AC-1 3000 operations at 400 V AC-1 3000 operations at 415 V AC-1 2000 operations at 415 V AC-3 1000 operations at 690 V AC-3 2000 operations at 400 V AC-3
Direction of incoming supply	As required
Technical Data - Mechanical	
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	IP40 (with insulating surround) IP66 (with door coupling rotary handle)
Degree of protection (terminations)	IP10 (tunnel terminal) IP00 (terminations, phase isolator and strip terminal)
Protection against direct contact	Finger and back-of-hand proof to DIN EN 50274/VDE 0106 part 110
Shock resistance	15 g (half-sinusoidal shock 11 ms)
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
Climatic proofing	Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30
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) 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 i^2t constant function: switchable Rated current = rated uninterrupted current: 800 A
Lifespan, mechanical	10000 operations
Technical Data - Mechanical - Terminals	
Standard terminals	Screw terminal
Optional terminals	Connection on rear. Strip terminal. Tunnel terminal
Terminal capacity (control cable)	0.75 mm^2 - 2.5 mm^2 (1x) 0.75 mm^2 - 1.5 mm^2 (2x)
Terminal capacity (aluminum solid conductor/cable)	70 mm^2 - 185 mm^2 (2x) at rear-side 1-hole module plate 70 mm^2 - 240 mm^2 (6x) at rear-side width extension 185 mm^2 - 240 mm^2 (1x) at rear-side 1-hole module plate 240 mm^2 (2x) at rear-side width extension 50 mm^2 (4x) at rear-side 2-hole module plate
Terminal capacity (aluminum stranded conductor/cable)	50 mm^2 - 240 mm^2 (4x) at 4-hole tunnel terminal
Terminal capacity (copper busbar)	Max. 50 mm x 10 mm (2x) at rear-side 1-hole module plate M10 at rear-side screw connection Min. 25 mm x 5 mm direct at switch rear-side connection Max. 80 mm x 10 mm (2x) at rear-side width extension 50 mm x 10 mm (2x) at rear-side 2-hole module plate Min. 25 mm x 5 mm at rear-side 1-hole module plate Min. 60 mm x 10 mm at rear-side width extension Max. 50 mm x 10 mm (2x) direct at switch rear-side connection
Terminal capacity (copper solid conductor/cable)	50 mm^2 - 240 mm^2 (4x) at 4-hole tunnel terminal 120 mm^2 - 300 mm^2 (1x) at rear-side 1-hole module plate 95 mm^2 - 300 mm^2 (2x) at rear-side 1-hole module plate

			95 mm^2 - 240 mm^2 (6x) at rear-side width extension 95 mm^2 - 185 mm^2 (2x) at rear-side 2-hole module plate 300 mm^2 (4x) at rear-side width extension 35 mm^2 - 185 mm^2 (4x) at rear-side 2-hole module plate
Terminal capacity (copper stranded conductor/cable)			120 mm^2 - 185 mm^2 (1x) direct at switch rear-side connection 50 mm^2 - 185 mm^2 (4x) direct at switch rear-side connection
Terminal capacity (copper strip)			Min. 5 segments of 25 mm x 1 mm at rear-side connection (punched) 10 segments of 50 mm x 1 mm (2x) at 1-hole module plate Min. 6 segments of 16 mm x 0.8 mm at flat conductor terminal 10 segments of 80 mm x 1 mm (2x) at rear-side width extension Max. 10 segments of 50 mm x 1 mm (2x) at rear-side connection (punched) Max. 10 segments of 32 mm x 1 mm (2x) at flat conductor terminal
Design verification as per IEC/EN 61439 - technical data			
Rated operational current for specified heat dissipation (In)			800 A
Equipment heat dissipation, current-dependent			79 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 Iu		A	800
Rated voltage		V	690 - 690
Rated short-circuit breaking capacity Icu at 400 V, 50 Hz		kA	50
Overload release current setting		A	400 - 800
Adjustment range short-term delayed short-circuit release		A	800 - 8000
Adjustment range undelayed short-circuit release		A	1600 - 9600
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