DATASHEET - NZMH4-4-VX800-AVE

NZM4 PXR20 circuit breaker, 800A, 4p, withdrawable unit

Part no. **NZMH4-4-VX800-AVE**
193337

Powering Business Worldwide™

Product name	Eaton Moeller series NZM molded case circuit breaker electronic
Part no.	NZMH4-4-VX800-AVE
EAN	9010238016828
Product Length/Depth	501 millimetre
Product height	280 millimetre
Product width	330 millimetre
Product weight	35.5 kilogram
Compliances	RoHS conform
Certifications	IEC/EN 60947 IEC
Product Tradename	NZM
Product Type	Molded case circuit breaker
Product Sub Type	Electronic
Globally Marketable	Yes
Type	Circuit breaker
Circuit breaker frame type	NZM4
Number of poles	Four-pole
Amperage Rating	800 A
Release system	Electronic release
Features	Motor drive optional Protection unit
Special features	LSI overload protection and delayed and non-delayed short-circuit protective device R.m.s. value measurement and “thermal memory” USB interface for configuration and test function with Power Xpert Protection Manager software Optionally communication-capable with interface module and internal Modbus RTU module or CAM 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: 800 A
Voltage rating	690 V - 690 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	8000 V
Current rating of neutral conductor	200% of phase conductor
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	2 A
Instantaneous current setting (Ii) - max	18 A
Overload current setting (Ir) - min	400 A
Overload current setting (Ir) - max	800 A
Short delay current setting (Isd) - min	2 A
Short delay current setting (Isd) - max	10 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	14400 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 (2000A: A, IEC/EN 60947-2)
Overvoltage category	III
Pollution degree	3
Lifespan, electrical	2000 operations at 690 V AC-1 1000 operations at 690 V AC-3 2000 operations at 415 V AC-3 3000 operations at 400 V AC-1 3000 operations at 415 V AC-1 2000 operations at 400 V AC-3
Direction of incoming supply	As required
Mounting Method	Withdrawable Built-in device fixed built-in technique
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)	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	LSI overload protection and delayed and non-delayed short-circuit protective device R.m.s. value measurement and “thermal memory” USB interface for configuration and test function with Power Xpert Protection Manager software Optionally communication-capable with interface module and internal Modbus RTU module or CAM 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: 800 A
Lifespan, mechanical	10000 operations
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 stranded conductor/cable)	50 mm^2 - 240 mm^2 (4x) at 4-hole tunnel terminal
Terminal capacity (copper busbar)	50 mm x 10 mm (2x) at rear-side 2-hole module plate M10 at rear-side screw connection Min. 25 mm x 5 mm at rear-side 1-hole module plate Min. 25 mm x 5 mm direct at switch rear-side connection Max. 50 mm x 10 mm (2x) at rear-side 1-hole module plate Max. 80 mm x 10 mm (2x) at rear-side width extension 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)	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 120 mm^2 - 300 mm^2 (1x) at rear-side 1-hole module plate 35 mm^2 - 185 mm^2 (4x) at rear-side 2-hole module plate

			50 mm² - 240 mm² (4x) at 4-hole tunnel terminal
Terminal capacity (copper stranded conductor/cable)			120 mm² - 185 mm² (1x) direct at switch rear-side connection 50 mm² - 185 mm² (4x) direct at switch rear-side connection
Terminal capacity (copper strip)			10 segments of 80 mm x 1 mm (2x) at rear-side width extension 10 segments of 50 mm x 1 mm (2x) at 1-hole module plate 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 Min. 5 segments of 25 mm x 1 mm at rear-side connection (punched) Min. 6 segments of 16 mm x 0.8 mm at flat conductor terminal
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
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			Systems, cable, selectivity and generator protection

Technical data ETIM 8.0

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@ss10.0.1-27-37-04-09 [AJZ716013])		
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	2 - 10
Adjustment range undelayed short-circuit release	A	2 - 18
Integrated earth fault protection		No
Type of electrical connection of main circuit		Screw connection
Device construction		Built-in device fixed built-in technique
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	4
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