DATASHEET - NZMN4-VX1250-AVE

NZM4 PXR20 circuit breaker, 1250A, 3p, withdrawable unit

Part no. **NZMN4-VX1250-AVE**
191416

Powering Business Worldwide™

Product name	Eaton Moeller series NZM molded case circuit breaker electronic
Part no.	NZMN4-VX1250-AVE
EAN	4015081919284
Product Length/Depth	501 millimetre
Product height	280 millimetre
Product width	260 millimetre
Product weight	29 kilogram
Certifications	IEC/EN 60947 IEC
Product Tradename	NZM
Product Type	Molded case circuit breaker
Product Sub Type	Electronic
Application	Use in unearthed supply systems at 415 V
Type	Circuit breaker
Circuit breaker frame type	NZM4
Accessories required	NZM4-XAVS
Number of poles	Three-pole
Amperage Rating	1250 A
Release system	Electronic release
Features	Protection unit Motor drive optional
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: 1250 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
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	2500 A
Instantaneous current setting (Ii) - max	37500 A
Overload current setting (Ir) - min	500 A
Overload current setting (Ir) - max	1250 A
Short delay current setting (Isd) - min	2 A
Short delay current setting (Isd) - max	10 A
Short-circuit release delayed setting - min	1000 A
Short-circuit release delayed setting - max	12500 A
Short-circuit release non-delayed setting - min	2500 A
Short-circuit release non-delayed setting - max	18750 A
Rated short-circuit breaking capacity Ics (IEC/EN 60947) at 230 V, 50/60 Hz	37 kA
Rated short-circuit breaking capacity Ics (IEC/EN 60947) at 400/415 V, 50/60 Hz	37 kA
Rated short-circuit breaking capacity Ics (IEC/EN 60947) at 440 V, 50/60 Hz	26 kA
Rated short-circuit breaking capacity Ics (IEC/EN 60947) at 525 V, 50/60 Hz	19 kA
Rated short-circuit breaking capacity Ics (IEC/EN 60947) at 690 V, 50/60 Hz	15 kA

Rated short-circuit making capacity Icm at 240 V, 50/60 Hz	110 kA
Rated short-circuit making capacity Icm at 400/415 V, 50/60 Hz	110 kA
Rated short-circuit making capacity Icm at 440 V, 50/60 Hz	77 kA
Rated short-circuit making capacity Icm at 525 V, 50/60 Hz	55 kA
Rated short-circuit making capacity Icm at 690 V, 50/60 Hz	40 kA
Short-circuit total breaktime	< 25 ms (≦ 415 V); < 35 ms (> 415 V)
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	60
Handle type	Rocker lever
Utilization category	B (IEC/EN 60947-2)
Overvoltage category	III
Pollution degree	3
Lifespan, electrical	20000 operations at 690 V AC-1 3000 operations at 400 V AC-1 3000 operations at 415 V AC-1
Direction of incoming supply	As required
Mounting Method	Built-in device slide-in technique (withdrawable) Withdrawable
Degree of protection	IP20 (basic degree of protection, in the operating controls area) IP20
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, cyclic, to IEC 60068-2-30 Damp heat, constant, to IEC 60068-2-78
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: 1250 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 - 1.5 mm^2 (2x) 0.75 mm^2 - 2.5 mm^2 (1x)
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 Max. 80 mm x 10 mm (2x) at rear-side width extension Max. 50 mm x 10 mm (2x) direct at switch rear-side connection 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 Min. 60 mm x 10 mm at rear-side width extension Max. 50 mm x 10 mm (2x) at rear-side 1-hole module plate
Terminal capacity (copper solid conductor/cable)	50 mm^2 - 240 mm^2 (4x) at 4-hole tunnel terminal 300 mm^2 (4x) at rear-side width extension 120 mm^2 - 300 mm^2 (1x) 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 95 mm^2 - 300 mm^2 (2x) at rear-side 1-hole module plate 35 mm^2 - 185 mm^2 (4x) at rear-side 2-hole module plate
Terminal capacity (copper stranded conductor/cable)	50 mm^2 - 185 mm^2 (4x) direct at switch rear-side connection 120 mm^2 - 185 mm^2 (1x) direct at switch rear-side connection
Terminal capacity (copper strip)	Max. 10 segments of 50 mm x 1 mm (2x) at rear-side connection (punched)

			Min. 6 segments of 16 mm x 0.8 mm at flat conductor terminal 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) 10 segments of 50 mm x 1 mm (2x) at 1-hole module plate 10 segments of 80 mm x 1 mm (2x) at rear-side width extension
Rated operational current for specified heat dissipation (In)			1250 A
Equipment heat dissipation, current-dependent			173.44 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	1,250
Rated voltage		V	690 - 690
Rated short-circuit breaking capacity Icu at 400 V, 50 Hz		kA	37
Overload release current setting		A	500 - 1,250
Adjustment range short-term delayed short-circuit release		A	2 - 10
Adjustment range undelayed short-circuit release		A	2,500 - 37,500
Integrated earth fault protection			No
Type of electrical connection of main circuit			Other
Device construction			Built-in device slide-in technique (withdrawable)
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