

NZM3 PXR25 circuit breaker, 450A, 3p, Screw terminal, UL/CSA



Part no. **NZMH3-PMX450-NA**
193355

Product name	Eaton Moeller series NZM molded case circuit breaker electronic
Part no.	NZMH3-PMX450-NA
EAN	9010238017009
Product Length/Depth	166 millimetre
Product height	275 millimetre
Product width	140 millimetre
Product weight	7.054 kilogram
Compliances	RoHS conform
Certifications	IEC/EN 60947 UL 489 UL (File No. E31593) CE marking CSA-C22.2 No. 5-09 UL508 IEC 60947-2 CSA (Class No. 1432-01) CSA certified IEC CSA (File No. 22086) Specially designed for North America UL (Category Control Number DIVQ) UL/CSA UL listed
Product Tradename	NZM
Product Type	Molded case circuit breaker
Product Sub Type	Electronic
Globally Marketable	Yes
Application	Branch circuits, feeder circuits
Type	Circuit breaker
Circuit breaker frame type	NZM3
Number of poles	Three-pole
Amperage Rating	450 A
Release system	Electronic release
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) Motor protection - overload- and short-circuit protective device LI Motor Class 1 energy measurement, phase loss protection, r.m.s. value measurement, and "thermal memory" USB interface for configuration and test function with Power Xpert Protection Manager software Interface module in equipment supplied. Optionally communication-capable with interface module and internal Modbus RTU module or CAM Switches conform to UL/CSA as well as the IEC regulations. IEC switching performance values are contained on the rating plate. Rated current = rated uninterrupted current: 450 A
Fitted with:	Thermal protection
Voltage rating	690 V - 690 V
Rated operating voltage Ue (UL) - max	600 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	8000 V
Rated operational current	450 A (660-690 V AC-3, making and breaking capacity) 500 A (415 V AC-1, making and breaking capacity) 630 A (690 V AC-1, making and breaking capacity) 630 A (400 V AC-1, making and breaking capacity)
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	900 A
Instantaneous current setting (Ii) - max	5400 A

Overload current setting (I _r) - min		225 A
Overload current setting (I _r) - max		450 A
Short-circuit release non-delayed setting - min		900 A
Short-circuit release non-delayed setting - max		5400 A
Rated short-circuit breaking capacity I _{cs} (IEC/EN 60947) at 230 V, 50/60 Hz		150 kA
Rated short-circuit breaking capacity I _{cs} (IEC/EN 60947) at 400/415 V, 50/60 Hz		130 kA
Rated short-circuit breaking capacity I _{cs} (IEC/EN 60947) at 440 V, 50/60 Hz		130 kA
Rated short-circuit breaking capacity I _{cs} (IEC/EN 60947) at 525 V, 50/60 Hz		33 kA
Rated short-circuit breaking capacity I _{cs} (IEC/EN 60947) at 690 V, 50/60 Hz		9 kA
Rated short-circuit making capacity I _{cm} at 240 V, 50/60 Hz		330 kA
Rated short-circuit making capacity I _{cm} at 400/415 V, 50/60 Hz		330 kA
Rated short-circuit making capacity I _{cm} at 440 V, 50/60 Hz		286 kA
Rated short-circuit making capacity I _{cm} at 525 V, 50/60 Hz		143 kA
Rated short-circuit making capacity I _{cm} at 690 V, 50/60 Hz		74 kA
Rated operating power at AC-3, 230 V		132 kW
Rated operating power at AC-3, 400 V		250 kW
Short-circuit total breaktime		< 10 ms
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		A (IEC/EN 60947-2)
Overvoltage category		III
Pollution degree		3
Lifespan, electrical		5000 operations at 400 V AC-1 2000 operations at 400 V AC-3 2000 operations at 415 V AC-3 2000 operations at 690 V AC-3 3000 operations at 690 V AC-1
Direction of incoming supply		As required
Mounting Method		Fixed 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 VDE 0106 part 100
Shock resistance		20 g (half-sinusoidal shock 20 ms)
Switch off technique		Electronic
Climatic proofing		Damp heat, cyclic, to IEC 60068-2-30 Damp heat, constant, to IEC 60068-2-78
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 I _{cn}) Motor protection - overload- and short-circuit protective device LI Motor Class 1 energy measurement, phase loss protection, r.m.s. value measurement, and "thermal memory" USB interface for configuration and test function with Power Xpert Protection Manager software Interface module in equipment supplied. Optionally communication-capable with interface module and internal Modbus RTU module or CAM Switches conform to UL/CSA as well as the IEC regulations. IEC switching performance values are contained on the rating plate. Rated current = rated uninterrupted current: 450 A
Lifespan, mechanical		15000 operations
Standard terminals		Screw terminal
Terminal capacity (copper busbar)		M10 at rear-side screw connection
Rated operational current for specified heat dissipation (I _n)		450 A
Equipment heat dissipation, current-dependent		60.75 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		Phase failure sensitive Current limiting circuit breaker Motor protection

Technical data ETIM 8.0

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 (ecI@ss10.0.1-27-37-04-01 [AGZ529016])		
Overload release current setting	A	225 - 450
Adjustment range undelayed short-circuit release	A	900 - 5,400
With thermal protection		Yes
Phase failure sensitive		Yes
Switch off technique		Electronic
Rated operating voltage	V	690 - 690
Rated permanent current I _u	A	450
Rated operation power at AC-3, 230 V	kW	132
Rated operation power at AC-3, 400 V	kW	250
Type of electrical connection of main circuit		Screw connection
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 _{cu} at 400 V, AC	kA	130
Degree of protection (IP)		IP20
Height	mm	275
Width	mm	140
Depth	mm	166

