DATASHEET - NZMN2-PX250-BT



NZM2 PXR25 circuit breaker - integrated energy measurement class 1, 250A, 3p, box terminal



Part no. Catalog No. EL-Nummer

(Norway)

NZMN2-PX250-BT 192050

4362756

Similar to illustration

Delivery program

		Circuit-breaker
		Systems, cable, selectivity and generator protection
		IEC
		Fixed
		Electronic release
		NZM2
		LSI overload protection and delayed and non-delayed short-circuit protective device Class 1 energy measurement, 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 internal Modbus RTU module or CAM
		3 pole
		Box terminal
$I_n = I_u$	А	250
I _r	A	100 - 250
$I_i = I_n \times \dots$		2 – 12
$I_{sd} = I_r \times \dots$		2 – 10
	I _r I _i = I _n x	I_r A

Technical data

General		
Standards		IEC/EN 60947
Protection against direct contact		Finger and back of hand proof to VDE 0106 Part 100
Climatic proofing		Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30
Ambient temperature		
Ambient temperature, storage	°C	- 40 - + 70
Operation	°C	-25 - +70
Mechanical shock resistance (10 ms half-sinusoidal shock) according to IEC 60068-2-27	g	20 (half-sinusoidal shock 20 ms)
Safe isolation to EN 61140		
Between auxiliary contacts and main contacts	V AC	500
between the auxiliary contacts	V AC	300
Mounting position		Vertical and 90° in all directions

Direction of incoming supply Degree of protection Device Enclosures			With XFI earth-fault release: - NZM1, N1, NZM2, N2: vertical and 90° in all directions with plug-in unit - NZM1, N1, NZM2, N2: vertical, 90° right/left with withdrawable unit: - NZM3, N3: vertical, 90° right/left - NZM3, N3: vertical, 90° right/left - NZM4, N4: vertical
Terminations Other technical data (sheet catalogue)			Tunnel terminal: IP10 Phase isolator and strip terminal: IP00 Weight
			Temperature dependency, Derating Effective power loss
Circuit-breakers			
Rated current = rated uninterrupted current	$I_n = I_u$	A	250
Rated surge voltage invariability	U _{imp}		
Main contacts		V	8000
Auxiliary contacts		V	6000
Rated operational voltage	U _e	V AC	690
Overvoltage category/pollution degree			111/3
Rated insulation voltage	Ui	V	690
Use in unearthed supply systems		V	≦ 690
Switching capacity			
Rated short-circuit making capacity	I _{cm}		
240 V	I _{cm}	kA	187
400/415 V	I _{cm}	kA	105
440 V 50/60 Hz	I _{cm}	kA	74
525 V 50/60 Hz	I _{cm}	kA	53
690 V 50/60 H	Ic	kA	40
Rated short-circuit breaking capacity I _{cn}	I _{cn}		
Ics to IEC/EN 60947 test cycle 0-t-C0-t-C0	lcs	kA	
240 V 50/60 Hz	I _{cs}	kA	85
400/415 V 50/60 Hz	I _{cs}	kA	50
440 V 50/60 Hz	I _{cs}	kA	35
525 V 50/60 Hz	I _{cs}	kA	25
690 V 50/60 Hz	I _{cs}	kA	5
			Maximum back-up fuse, if the expected short-circuit currents at the installation location exceed the switching capacity of the circuit-breaker.
Rated short-time withstand current			
t = 0.3 s	I _{cw}	kA	1.9
t = 1 s	I _{cw}	kA	1.9
Utilization category to IEC/EN 60947-2			Α
Lifespan, mechanical(of which max. 50 % trip by shunt/undervoltage release)	Operations		20000
Lifespan, electrical			
AC-1			
400 V 50/60 Hz	Operations		10000
415 V 50/60 Hz	Operations		10000
690 V 50/60 Hz	Operations		7500
Max. operating frequency		Ops/h	120
Total break time at short-circuit		ms	< 10

Terminal capacity Standard equipment Box terminal Optional accessories Screw terminal Tunnel terminal connection on rear Round copper conductor Box terminal 1 x (10 - 16) 2 x (6 - 16) Solid mm² 1 x (25 - 185) Stranded mm^2 2 x (25 - 70) Tunnel terminal Solid 1 x 16 mm² Stranded 1-hole 1 x (25 - 185) mm² Bolt terminal and rear-side connection Direct on the switch 1 x (10 - 16) 2 x (6 - 16) Solid mm² 1 x (25 - 185) 2 x (25 - 70) Stranded mm² Al circular conductor Tunnel terminal Solid mm² 1 x 16 Stranded Stranded mm² 1 x (25 - 185) Cu strip (number of segments x width x segment thickness) Box terminal 2 x 9 x 0.8 min. mm max. mm 10 x 16 x 0.8 (2x) 8 x 15.5 x 0,8 Bolt terminal and rear-side connection Flat copper strip, with holes 2 x 16 x 0.8 min. mm 10 x 24 x 0.8 Flat copper strip, with holes max. mm Copper busbar (width x thickness) mm Bolt terminal and rear-side connection Screw connection M8 Direct on the switch 16 x 5 min. mm 24 x 8 max. mm Control cables 1 x (0.75 - 2.5) mm^2

Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	In	А	250
Equipment heat dissipation, current-dependent	P _{vid}	W	51.56
Operating ambient temperature min.		°C	-25
Operating ambient temperature max.		°C	70
IEC/EN 61439 design verification			
10.2 Strength of materials and parts			
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 Verification of resistance of insulating materials to abnormal heat and fire due to internal electric effects			Meets the product standard's requirements.
10.2.4 Resistance to ultra-violet (UV) radiation			Meets the product standard's requirements.

2 x (0.75 - 1.5)

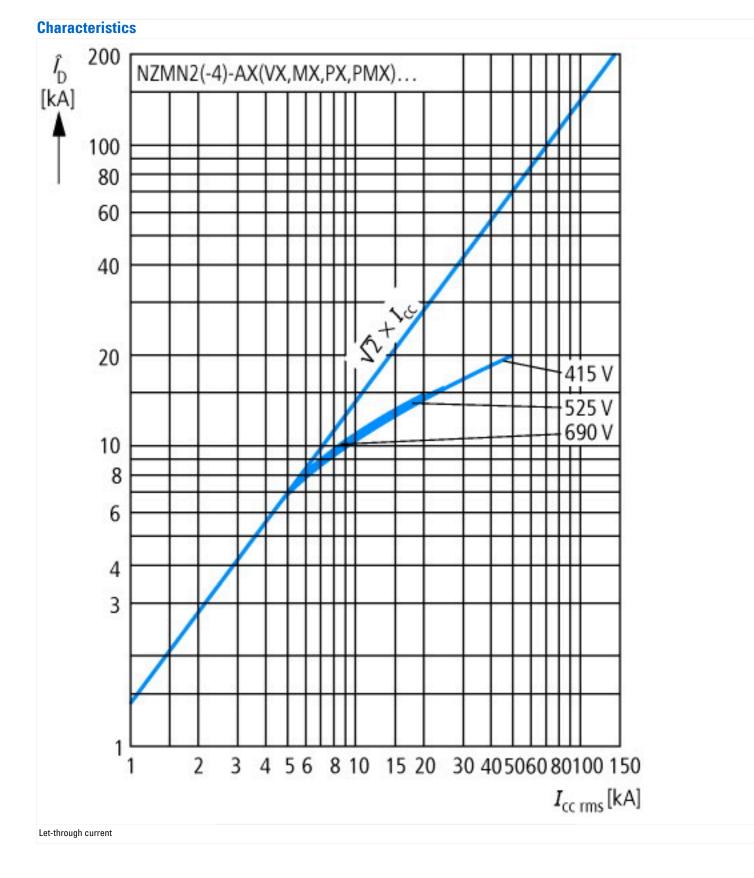
10.2.5 Lifting	Does not apply, since the entire switchgear needs to be evaluated.
10.2.6 Mechanical impact	Does not apply, since the entire switchgear needs to be evaluated.
10.2.7 Inscriptions	Meets the product standard's requirements.
10.3 Degree of protection of ASSEMBLIES	Does not apply, since the 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 Insulation properties	
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.

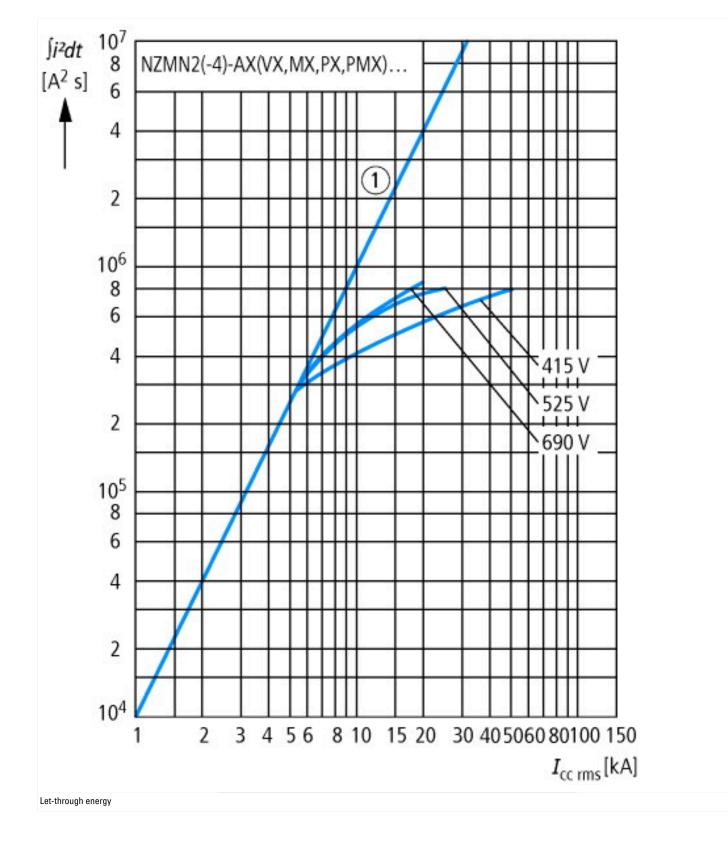
Technical data ETIM 7.0

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])

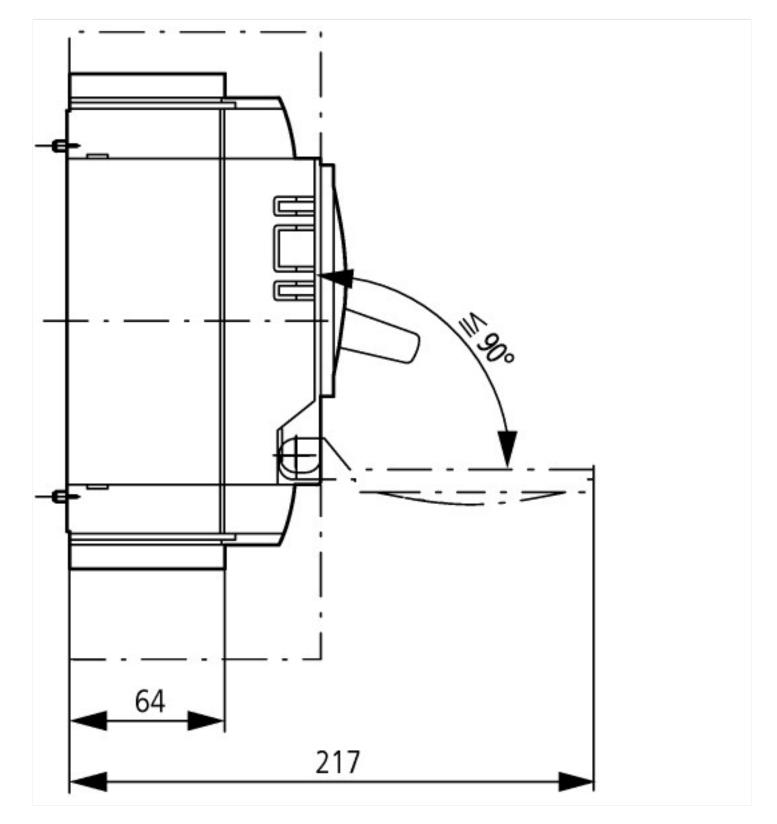
P		
Rated permanent current lu	А	250
Rated voltage	V	690 - 690
Rated short-circuit breaking capacity Icu at 400 V, 50 Hz	kA	50
Overload release current setting	А	100 - 250
Adjustment range short-term delayed short-circuit release	А	2 - 10
Adjustment range undelayed short-circuit release	А	2 - 12
Integrated earth fault protection		No
Type of electrical connection of main circuit		Frame clamp
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		Yes
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 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





Dimensions





Additional product information (links)

Weight	http://ecat.moeller.net/flip-cat/?edition=HPLEN&startpage=17.171
Temperature dependency, Derating	http://ecat.moeller.net/flip-cat/?edition=HPLEN&startpage=17.172
Effective power loss	http://ecat.moeller.net/flip-cat/?edition=HPLEN&startpage=17.174
additional technical information for NZM power switch	https://es-assets.eaton.com/DOCUMENTATION/PDF/nzm_technic_de_en.pdf