### **DATASHEET - NZMS2-4-PX100/VAR-SVE**



NZM2 PXR25 circuit breaker - integrated energy measurement class 1, 100A, 4p, variable, Screw terminal, plug-in technology



Part no. NZMS2-4-PX100/VAR-SVE Catalog No. 192071

Similar to illustration

### **Delivery program**

Delivery program			
Product range			Circuit-breaker
Protective function			Systems, cable, selectivity and generator protection
Standard/Approval			IEC
Installation type			Plug-in units
Release system			Electronic release
Construction size			NZM2
Description			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
Number of poles			4 pole
Standard equipment			Screw connection
Switching capacity			
400/415 V 50 Hz	I <sub>cu</sub>	kA	70
Rated current = rated uninterrupted current			
Rated current = rated uninterrupted current	$I_n = I_u$	Α	100
Neutral conductor	% of phase conductor	%	0 - 60 - 100
Setting range			
Overload trip			
中	I <sub>r</sub>	A	40 - 100
Short-circuit releases			
Non-delayed	$I_i = I_n x \dots$		2 – 18
Delayed	$I_{sd} = I_r \times \dots$		2 – 10

### **Technical data**

#### General

onora:		
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

hadaaa ahaa aa dhaa aa dhaa ahaa		V AC	200
between the auxiliary contacts  Mounting position		V AC	Vertical and 90° in all directions  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 - NZM4, N4: vertical with remote operator: - NZM2, N(S)2, NZM3, N(S)3, NZM4, N(S)4: vertical and 90° in all directions
Direction of incoming supply			as required
Degree of protection			as required
Device			In the operating controls area: IP20 (basic degree of protection)
Enclosures			With insulating surround: IP40 With door coupling rotary handle: IP66
Terminations			Tunnel terminal: IP10 Phase isolator and strip terminal: IP00
Other technical data (sheet catalogue)			Temperature dependency, Derating
Circuit-breakers	1 1	٨	100
Rated current = rated uninterrupted current	I <sub>n</sub> = I <sub>u</sub>	A	100
Rated surge voltage invariability	U <sub>imp</sub>		
Main contacts		V	8000
Auxiliary contacts		V	6000
Rated operational voltage	U <sub>e</sub>	V AC	690
Overvoltage category/pollution degree			III/3
Rated insulation voltage	Ui	V	690
Use in unearthed supply systems		V	≦ 690
Switching capacity Rated short-circuit making capacity	I <sub>cm</sub>		
240 V	I <sub>cm</sub>	kA	220
400/415 V		kA	154
440 V 50/60 Hz	I <sub>cm</sub>	kA	143
	I <sub>cm</sub>		80
525 V 50/60 Hz	I <sub>cm</sub>	kA	
690 V 50/60 H	lc	kA	40
Rated short-circuit breaking capacity I <sub>cn</sub>	I <sub>cn</sub>		
Icu to IEC/EN 60947 test cycle 0-t-C0	lcu	kA	100
240 V 50/60 Hz	I <sub>cu</sub>	kA	100
400/415 V 50/60 Hz	I <sub>cu</sub>	kA	70
440 V 50/60 Hz	I <sub>cu</sub>	kA	65
525 V 50/60 Hz	I <sub>cu</sub>	kA	36
690 V 50/60 Hz	I <sub>cu</sub>	kA	20
Ics to IEC/EN 60947 test cycle 0-t-C0-t-C0	lcs	kA	
240 V 50/60 Hz	I <sub>cs</sub>	kA	100
400/415 V 50/60 Hz	I <sub>cs</sub>	kA	70
440 V 50/60 Hz	I <sub>cs</sub>	kA	65
525 V 50/60 Hz	I <sub>cs</sub>	kA	36
690 V 50/60 Hz	I <sub>cs</sub>	kA	6
			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 <sub>cw</sub>	kA	1.9
t = 1 s	I <sub>cw</sub>	kA	1.9
Utilization category to IEC/EN 60947-2			A
Lifespan, mechanical(of which max. 50 % trip by shunt/undervoltage release)	Operations		20000
Lifespan, electrical			

Most passed bit   Operations   10000   Most passed   100000   Most passed   10000   Most passed   100000   Most passed   100000   Most passed   100000   Most passed   100000   Most passed   100000	AC-1			
Diget   Dige	400 V 50/60 Hz	Operations		10000
Max. operating trequency   10 path   128	415 V 50/60 Hz	Operations		10000
Tends	690 V 50/60 Hz	Operations		7500
Section of component of content of the content of	Max. operating frequency		Ops/h	120
Sandard quipment	Total break time at short-circuit		ms	<10
Accessories required Optional accessories Optional accessories Round copper conductor  Box terminal Solid Sitranded	Terminal capacity			
Optional accessories         Sex serminal Temper terminal connection on rear connection connect	Standard equipment			Screw connection
Name	Accessories required			NZM2-4-XSVS
Box terminal   Salid   mm²   1 x (10 - 16)   2 x (6 - 16)   mm²   1 x (25 - 183)   2 x (25 - 70)   mm²   1 x (25 - 183)   2 x (25 - 70)   mm²   1 x (25 - 183)   2 x (25 - 70)   mm²   1 x (25 - 183)   2 x (25 - 70)   mm²   1 x (25 - 183)   mm²   1 x (	Optional accessories			Tunnel terminal
Solid   mm²	Round copper conductor			
Stranded	Box terminal			
Tunnel terminal   Solid   Stranded   Solid	Solid		mm <sup>2</sup>	
Solid   Stranded   I - I - I - I - I - I - I - I - I - I	Stranded		mm <sup>2</sup>	
Stranded   1-hole   mm²   1 x (25 - 185)				
1-hole	Solid		$mm^2$	1 x 16
Bolt terminal and rear-side connection   Direct on the switch   Solid   mm²   1x (10 - 16)   2x (6 - 16)   2x (6 - 16)   2x (2	Stranded			
Direct on the switch   Solid   mm²   1 x (10 - 16)   2 x (6 - 16)	1-hole		$mm^2$	1 x (25 - 185)
Note	Bolt terminal and rear-side connection			
Stranded	Direct on the switch			
Al circular conductor   Tunnel terminal   Solid   mm²   1 x 16	Solid		mm <sup>2</sup>	
Tunnel terminal   Solid   mm²   1 x 16	Stranded		mm <sup>2</sup>	
Stranded  Stranded  Cu strip (number of segments x width x segment thickness)  Box terminal  min. mm 2 x 9 x 0.8  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 min. mm 2 x 16 x 0.8  Flat copper strip, with holes max. mm 10 x 24 x 0.8  Copper busbar (width x thickness) mm  Bolt terminal and rear-side connection  Screw connection  Direct on the switch  min. mm 16 x 5  max. mm 16 x 5  max. mm 24 x 8  Control cables	Al circular conductor			
Stranded  Stranded  Cu strip (number of segments x width x segment thickness)  Box terminal  min. mm 2 x 9 x 0.8  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 min. mm 2 x 16 x 0.8  Flat copper strip, with holes max. mm 10 x 24 x 0.8  Copper busbar (width x thickness) mm  Bolt terminal and rear-side connection  Screw connection  Screw connection  Direct on the switch  min. mm 16 x 5  max. mm 24 x 8  Control cables	Tunnel terminal			
Stranded  Cu strip (number of segments x width x segment thickness)  Box terminal  min. mm 2x9x0.8  max. mm 10x16x0.8 (2x) 8x15.5x0.8   Bolt terminal and rear-side connection  Flat copper strip, with holes  min. mm 2x16x0.8  Flat copper strip, with holes  max. mm 10x24x0.8  Copper busbar (width x thickness)  mm  Bolt terminal and rear-side connection  Screw connection  Direct on the switch  min. mm 16x5  max. mm 24x8  Control cables	Solid		$mm^2$	1 x 16
Cu strip (number of segments x width x segment thickness)  Box terminal  min. mm 2x 9x 0.8  max. mm 10x 16x 0.8 (2x) 8 x 15.5 x 0,8   Bolt terminal and rear-side connection  Flat copper strip, with holes min. mm 2x 16x 0.8  Flat copper strip, with holes max. mm 10x 24 x 0.8  Copper busbar (width x thickness) mm  Bolt terminal and rear-side connection  Screw connection  Direct on the switch  min. mm 16x 5  max. mm 24x 8  Control cables	Stranded			
Box terminal  min. mm 2 x 9 x 0.8  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 min. mm 2 x 16 x 0.8  Flat copper strip, with holes max. mm 10 x 24 x 0.8  Copper busbar (width x thickness) mm  Bolt terminal and rear-side connection  Screw connection  Direct on the switch  min. mm 16 x 5  max. mm 24 x 8  Control cables	Stranded		$\text{mm}^2$	1 x (25 - 185)
min. mm 2 x 9 x 0.8  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 min. mm 2 x 16 x 0.8  Flat copper strip, with holes max. mm 10 x 24 x 0.8  Copper busbar (width x thickness) mm  Bolt terminal and rear-side connection  Screw connection  Direct on the switch min. mm 16 x 5  max. mm 24 x 8  Control cables	Cu strip (number of segments x width x segment thickness)			
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 min. mm 2 x 16 x 0.8  Flat copper strip, with holes max. mm 10 x 24 x 0.8  Copper busbar (width x thickness) mm  Bolt terminal and rear-side connection  Screw connection  Direct on the switch min. mm 16 x 5  max. mm 24 x 8  Control cables	Box terminal			
Bolt terminal and rear-side connection  Flat copper strip, with holes  Flat copper strip, with holes  min. mm 2 x 16 x 0.8  Flat copper strip, with holes  max. mm 10 x 24 x 0.8  Copper busbar (width x thickness)  mm  Bolt terminal and rear-side connection  Screw connection  Direct on the switch  min. mm 16 x 5  max. mm 24 x 8  Control cables		min.	mm	2 x 9 x 0.8
Flat copper strip, with holes  Flat copper strip, with holes  max. mm  10 x 24 x 0.8  Copper busbar (width x thickness)  mm  Bolt terminal and rear-side connection  Screw connection  Direct on the switch  min. mm  16 x 5  max. mm  24 x 8  Control cables		max.	mm	
Flat copper strip, with holes max. mm 10 x 24 x 0.8  Copper busbar (width x thickness) mm  Bolt terminal and rear-side connection Screw connection Direct on the switch min. mm 16 x 5 max. mm 24 x 8  Control cables  mm² 1 x (0.75 - 2.5)	Bolt terminal and rear-side connection			
Copper busbar (width x thickness)  Bolt terminal and rear-side connection  Screw connection  Direct on the switch  min. mm 16 x 5  max. mm 24 x 8  Control cables	Flat copper strip, with holes	min.	mm	2 x 16 x 0.8
Bolt terminal and rear-side connection  Screw connection  Direct on the switch  min. mm 16 x 5  max. mm 24 x 8  Control cables	Flat copper strip, with holes	max.	mm	10 x 24 x 0.8
Screw connection         M8           Direct on the switch         min. mm 16 x 5           max. mm 24 x 8           Control cables         mm² 1 x (0.75 - 2.5)	Copper busbar (width x thickness)	mm		
Direct on the switch         min.         mm         16 x 5           max.         mm         24 x 8    Control cables	Bolt terminal and rear-side connection			
min. mm 16 x 5  max. mm 24 x 8  Control cables mm <sup>2</sup> 1 x (0.75 - 2.5)	Screw connection			M8
Control cables max. mm 24 x 8  Control cables 1 x (0.75 - 2.5)	Direct on the switch			
Control cables mm <sup>2</sup> 1 x (0.75 - 2.5)		min.	mm	16 x 5
$mm^2$ 1 x (0.75 - 2.5)	Control cables	max.	mm	24 x 8
			mm <sup>2</sup>	1 x (0.75 - 2.5) 2 x (0.75 - 1.5)

# Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	In	Α	100
Equipment heat dissipation, current-dependent	P <sub>vid</sub>	W	8.25
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.
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 observed.
10.12 Electromagnetic compatibility	Is the panel builder's responsibility. The specifications for the switchgear must observed.
10.13 Mechanical function	The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.

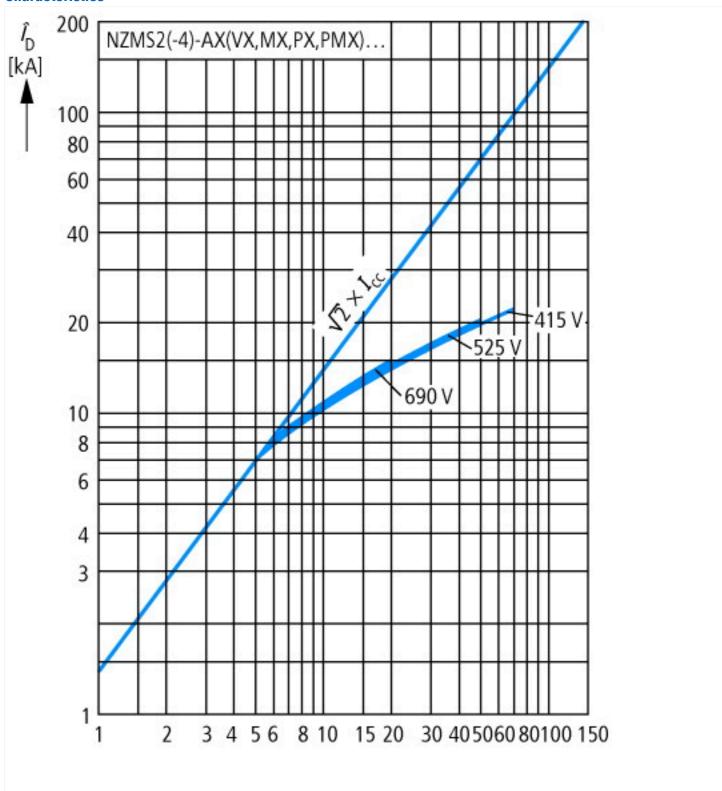
### **Technical data ETIM 7.0**

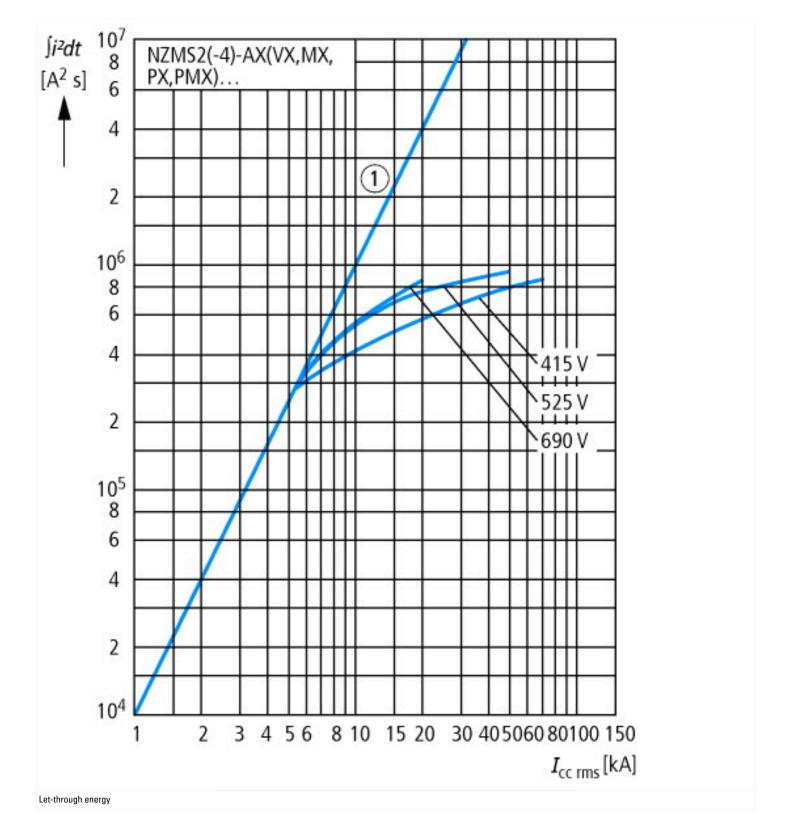
Low-voltage industrial components (EG000017) / Power circuit-breaker for trafo/generator/installation protection (EC000228)

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])

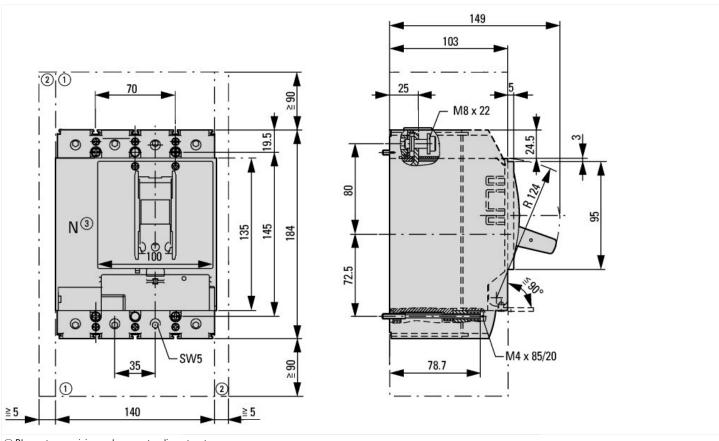
Rated permanent current lu         A         100           Rated voltage         V         850 - 890           Rated short-circuit breaking capacity lcu at 400 V.50 Hz         KA         70           Overload release current setting         A         A - 100           Adjustment range short-term delayed short-circuit release         A         2 - 10           Adjustment range undelayed short-circuit release         B         A         2 - 10           Adjustment range undelayed short-circuit release         B         A         2 - 10           Adjustment range undelayed short-circuit release         B         A         2 - 10           Adjustment range undelayed short-circuit release         B         A         2 - 10           Adjustment range undelayed short-circuit release         B         A         2 - 10           Adjustment range undelayed short-circuit release         D         Derector assemble of the patrix fall protection of main circuit         D         Derector assemble of the patrix fall protection of main circuit         D         Derector assemble of the patrix fall protection of the patrix fall protection fall pr	protection (ecl@ss10.0.1-27-37-04-09 [AJZ716013])		
Rated short-circuit breaking capacity lou at 400 V, 50 Hz         KA         70           Overload release current setting         A         40-100           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         Other           Type of electrical connection of main circuit         Other         Built-in device plug-in technique           Suitable for DIN rail (top hat rail) mounting         No         No           DIN rail (top hat rail) mounting optional         No         No           Number of auxiliary contacts as normally closed contact         O         O           Number of auxiliary contacts as change-over contact         No         O           With switched-off indicator         No         No           With under voltage release         No         No           Number of poles         A         4           Position of connection for main current circuit         Connection at separate chassis part           Type of control element         No         Rocker lever           Complete device with protection unit         Yes         No           Motor drivie integrated         Yes         No	Rated permanent current lu	Α	100
Overload release current setting         A         40-100           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         Other           Type of electrical connection of main circuit         Other         Built-in device plug-in technique           Device construction         Built-in device plug-in technique         Wo           DIN rail (top hat rail) mounting optional         No         No           Number of auxiliary contacts as normally closed contact         Vo         0           Number of auxiliary contacts as change-over contact         Vo         0           With switched-off indicator         No         No           With under voltage release         No         No           Number of poles         4         A           Position of connection for main current circuit         V         4           Type of control element         Connection at separate chassis part           Complete device with protection unit         Yes           Motor drive integrated         No           Motor drive optional         Yes	Rated voltage	V	690 - 690
Adjustment range short-term delayed short-circuit release Adjustment range undelayed short-circuit release Adjustment range undelayed short-circuit release Integrated earth fault protection Type of electrical connection of main circuit Device construction Suitable for DIN rail (top hat rail) mounting DIN rail (top hat rail) mounting optional DIN rail (top hat rail) mounting optional Number of auxiliary contacts as normally closed contact  Number of auxiliary contacts as normally open contact  Number of auxiliary contacts as normally open contact  Number of auxiliary contacts as change-over contact  Number of auxiliary contacts as change-over contact  Number of pales  No  No  No  No  No  No  No  No  No  N	Rated short-circuit breaking capacity Icu at 400 V, 50 Hz	kA	70
Adjustment range undelayed short-circuit release Integrated earth fault protection Type of electrical connection of main circuit Device construction Suitable for DIN rail (top hat rail) mounting SUIN rail (top hat rail) mounting optional Number of auxiliary contacts as normally closed contact Number of auxiliary contacts as normally pen contact Number of auxiliary contacts as change-over contact Number of auxiliary contacts as change-over contact Number of poles Number of p	Overload release current setting	Α	40 - 100
Integrated earth fault protection Type of electrical connection of main circuit Device construction Suitable for DIN rail (top hat rail) mounting DIN rail (top hat rail) mounting optional Number of auxiliary contacts as normally closed contact Number of auxiliary contacts as normally open contact Number of auxiliary contacts as change-over contact Number of auxiliary contacts as change-over contact Number of poles Number of connection for main current circuit Type of control element Complete device with protection unit Motor drive integrated Motor drive optional	Adjustment range short-term delayed short-circuit release	Α	2 - 10
Type of electrical connection of main circuit  Device construction  Device construction  Suitable for DIN rail (top hat rail) mounting  DIN rail (top hat rail) mounting optional  Number of auxiliary contacts as normally closed contact  Number of auxiliary contacts as normally open contact  Number of auxiliary contacts as change-over contact  With switched-off indicator  With under voltage release  Number of poles  Number of poles  No  No  No  No  No  No  No  No  No  N	Adjustment range undelayed short-circuit release	Α	2 - 18
Device construction  Suitable for DIN rail (top hat rail) mounting  DIN rail (top hat rail) mounting optional  Number of auxiliary contacts as normally closed contact  Number of auxiliary contacts as normally open contact  Number of auxiliary contacts as change-over contact  Number of poles  No  No  No  No  No  No  No  No  No  N	Integrated earth fault protection		No
Suitable for DIN rail (top hat rail) mounting DIN rail (top hat rail) mounting optional Number of auxiliary contacts as normally closed contact Number of auxiliary contacts as normally open contact Number of auxiliary contacts as change-over contact Number of pauxiliary contacts as change-over contact Nith switched-off indicator No	Type of electrical connection of main circuit		Other
DIN rail (top hat rail) mounting optional  Number of auxiliary contacts as normally closed contact  Number of auxiliary contacts as normally open contact  Number of auxiliary contacts as change-over contact  Number of auxiliary contacts as change-over contact  With switched-off indicator  With under voltage release  With under voltage release  No  No  No  No  No  No  No  No  No  N	Device construction		Built-in device plug-in technique
Number of auxiliary contacts as normally closed contact  Number of auxiliary contacts as normally open contact  Number of auxiliary contacts as change-over contact  Number of auxiliary contacts as change-over contact  With switched-off indicator  With under voltage release  No  Number of poles  No  No  Number of poles  Position of connection for main current circuit  Type of control element  Complete device with protection unit  Motor drive integrated  Motor drive optional  O  O  O  O  O  O  O  O  O  O  O  O  O	Suitable for DIN rail (top hat rail) mounting		No
Number of auxiliary contacts as normally open contact  Number of auxiliary contacts as change-over contact  With switched-off indicator  With under voltage release  With under voltage release  No  No  Number of poles  Position of connection for main current circuit  Type of control element  Complete device with protection unit  Motor drive integrated  Motor drive optional	DIN rail (top hat rail) mounting optional		No
Number of auxiliary contacts as change-over contact  With switched-off indicator  With under voltage release  No  Number of poles  Position of connection for main current circuit  Type of control element  Complete device with protection unit  Motor drive integrated  Motor drive optional  O  No  No  No  No  No  No  No  No  No	Number of auxiliary contacts as normally closed contact		0
With switched-off indicator With under voltage release No Number of poles Position of connection for main current circuit Complete device with protection unit Motor drive optional No Number of poles Position of connection for main current circuit Connection for main current circuit No	Number of auxiliary contacts as normally open contact		0
With under voltage release No Number of poles 4 Position of connection for main current circuit Type of control element Complete device with protection unit Motor drive optional  No	Number of auxiliary contacts as change-over contact		0
Number of poles  Position of connection for main current circuit  Type of control element  Complete device with protection unit  Motor drive optional  A Connection at separate chassis part  Rocker lever  Rocker lever  Yes  No  Yes	With switched-off indicator		No
Position of connection for main current circuit  Type of control element  Complete device with protection unit  Motor drive optional  Connection at separate chassis part  Rocker lever  Yes  No  Yes	With under voltage release		No
Type of control element Complete device with protection unit Motor drive optional  Rocker lever  Yes  No  Yes	Number of poles		4
Complete device with protection unit  Yes  Motor drive integrated  Motor drive optional  Yes  Yes	Position of connection for main current circuit		Connection at separate chassis part
Motor drive integrated No Yes	Type of control element		Rocker lever
Motor drive optional Yes	Complete device with protection unit		Yes
	Motor drive integrated		No
Degree of protection (IP)	Motor drive optional		Yes
	Degree of protection (IP)		IP20

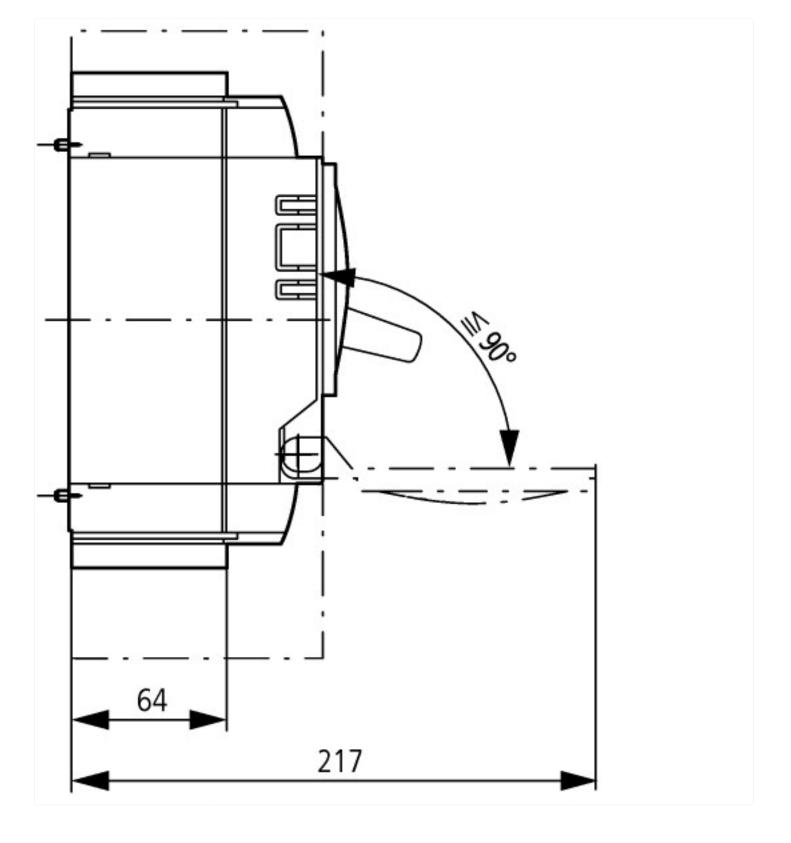
### **Characteristics**

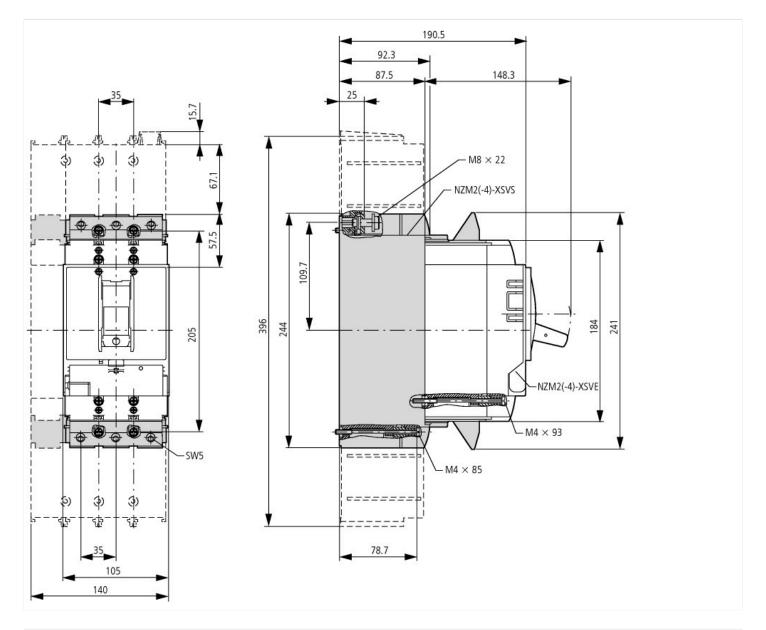




## **Dimensions**







## **Additional product information (links)**

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