DATASHEET - NZMH2-4-A125-SVE



Circuit-breaker, 4p, 125A, plug-in module

Part no. NZMH2-4-A125-SVE Catalog No. 113377

EL-Nummer (Norway)

0004357058



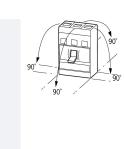


Delivery program			
Product range			Circuit-breaker
Protective function			System and cable protection
Standard/Approval			IEC
Installation type			Plug-in units
Release system			Thermomagnetic release
Construction size			NZM2
Description			Set value in neutral conductor is synchronous with set value Ir of main pole.
Number of poles			4 pole
Standard equipment			Screw connection
Switching capacity			
400/415 V 50 Hz	I _{cu}	kA	150
Rated current = rated uninterrupted current			
Rated current = rated uninterrupted current	$\boldsymbol{I}_n = \boldsymbol{I}_u$	Α	125
Neutral conductor	% of phase conductor	%	100
Setting range			
Overload trip			
中	I _r	Α	100 - 125
Main pole	l _r	A	100 - 125
Short-circuit releases			
Non-delayed	$I_i = I_n \times \dots$		6 - 10

Technical data

General

donoral		
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
Weight	kg	3.5
Mounting position		Vertical and 90° in all directions



With XFI earth-fault release: - NZM1, N1, NZM2, N2: vertical and 90° in all directions 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	
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	

Rated current = rated uninterrupted current	$I_n = I_u$	Α	125
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			III/3
Rated insulation voltage	U_{i}	V	1000
Use in unearthed supply systems		V	≦ 690

Switching capacity

Lifespan, mechanical(of which max. 50 % trip by shunt/undervoltage release)

Lifespan, electrical AC-1

400 V 50/60 Hz

Switching capacity			
Rated short-circuit making capacity	I _{cm}		
240 V	I _{cm}	kA	330
400/415 V	I _{cm}	kA	330
440 V 50/60 Hz	I _{cm}	kA	286
525 V 50/60 Hz	I _{cm}	kA	105
690 V 50/60 H	Ic	kA	40
Rated short-circuit breaking capacity I _{cn}	I _{cn}		
Icu to IEC/EN 60947 test cycle 0-t-C0	lcu	kA	
240 V 50/60 Hz	I _{cu}	kA	150
400/415 V 50/60 Hz	I _{cu}	kA	150
440 V 50/60 Hz	I _{cu}	kA	130
525 V 50/60 Hz	I _{cu}	kA	50
690 V 50/60 Hz	I _{cu}	kA	20
Ics to IEC/EN 60947 test cycle 0-t-C0-t-C0	Ics	kA	
240 V 50/60 Hz	I _{cs}	kA	150
400/415 V 50/60 Hz	I _{cs}	kA	150
440 V 50/60 Hz	I _{cs}	kA	130
525 V 50/60 Hz	I _{cs}	kA	37.5
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			A

20000

10000

Operations

Operations

415 V 50/60 Hz	Operations		10000
690 V 50/60 Hz	Operations		7500
AC3	Operations		7300
400 V 50/60 Hz	Operations		6500
415 V 50/60 Hz	Operations		6500
690 V 50/60 Hz	Operations		5000
Max. operating frequency	Operations	One/h	120
Total break time at short-circuit		Ops/h	< 10
Terminal capacity		ms	(10
Standard equipment			Screw connection
Accessories required			NZM2-4-XSVS
Optional accessories			Box terminal Tunnel terminal connection on rear
Round copper conductor			
Box terminal			
Solid		mm ²	1 x (10 - 16) 2 x (6 - 16)
Stranded		mm ²	1 x (25 - 185) 2 x (25 - 70)
Tunnel terminal			
Solid		mm^2	1 x 16
Stranded			
1-hole		mm ²	1 x (25 - 185)
Bolt terminal and rear-side connection			
Direct on the switch			
Solid		mm ²	1 x (10 - 16) 2 x (6 - 16)
Stranded		mm ²	1 x (25 - 185) 2 x (25 - 70)
Al circular conductor			
Tunnel terminal			
Solid		mm ²	1 x 16
Stranded			
Stranded		mm^2	1 x (25 - 185)
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			No.
Screw connection			M8
Direct on the switch			10.15
	min.	mm	16 x 5
Control colden	max.	mm	24 x 8
Control cables		2	1 × (0.75, 2.5)
		mm ²	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	125
Equipment heat dissipation, current-dependent	P_{vid}	W	27.61
Operating ambient temperature min.		°C	-25

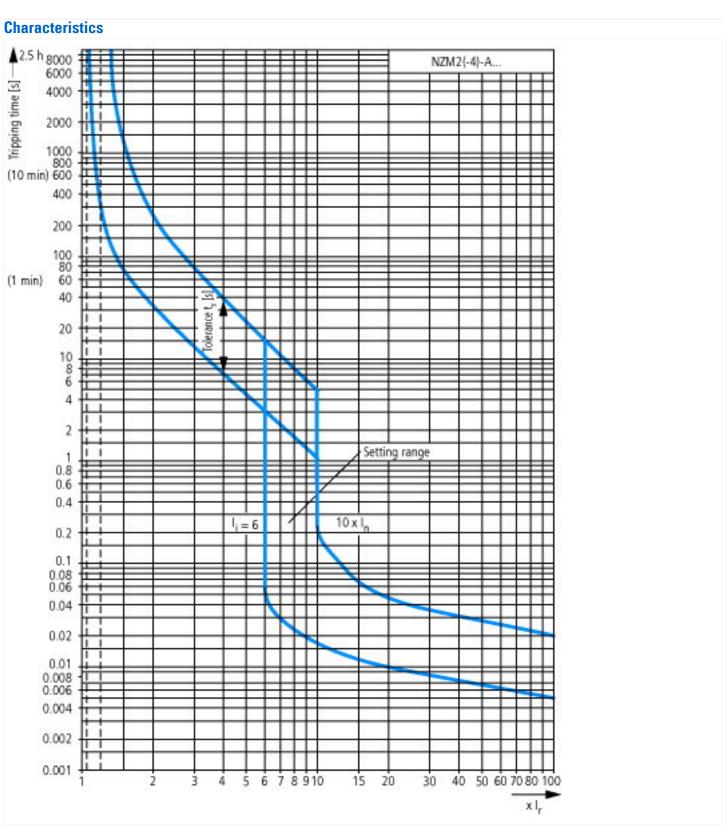
°C	70
	Meets the product standard's requirements.
	Does not apply, since the entire switchgear needs to be evaluated.
	Does not apply, since the entire switchgear needs to be evaluated.
	Meets the product standard's requirements.
	Does not apply, since the entire switchgear needs to be evaluated.
	Meets the product standard's requirements.
	Does not apply, since the entire switchgear needs to be evaluated.
	Does not apply, since the entire switchgear needs to be evaluated.
	Is the panel builder's responsibility.
	Is the panel builder's responsibility.
	Is the panel builder's responsibility.
	Is the panel builder's responsibility.
	Is the panel builder's responsibility.
	The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices.
	Is the panel builder's responsibility. The specifications for the switchgear must be observed.
	Is the panel builder's responsibility. The specifications for the switchgear must be observed.
	The device meets the requirements, provided the information in the instruction
	°C

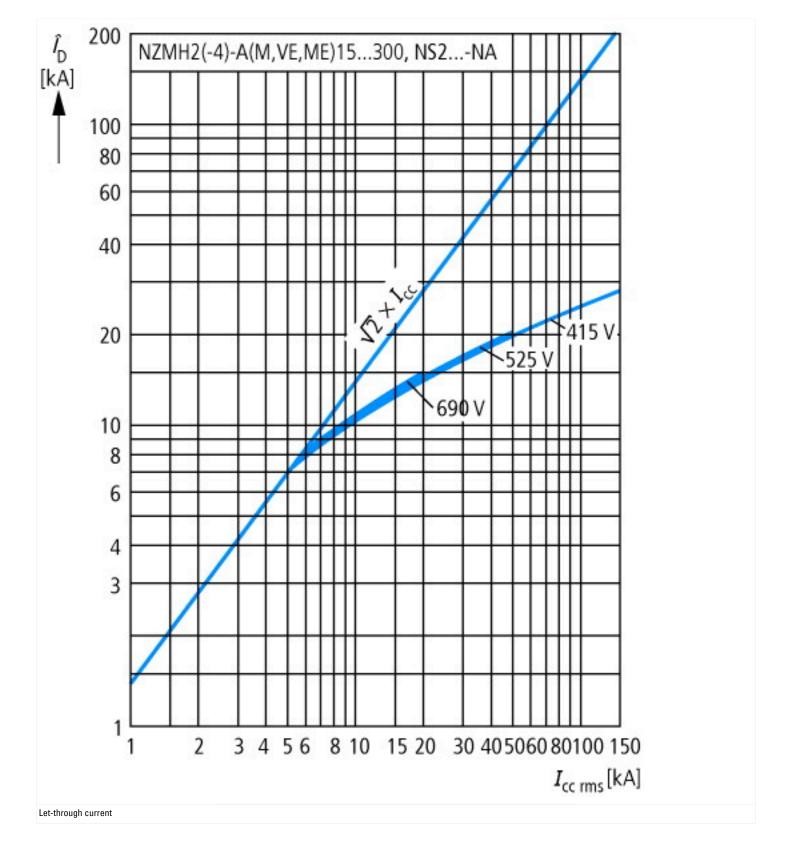
Technical data ETIM 7.0

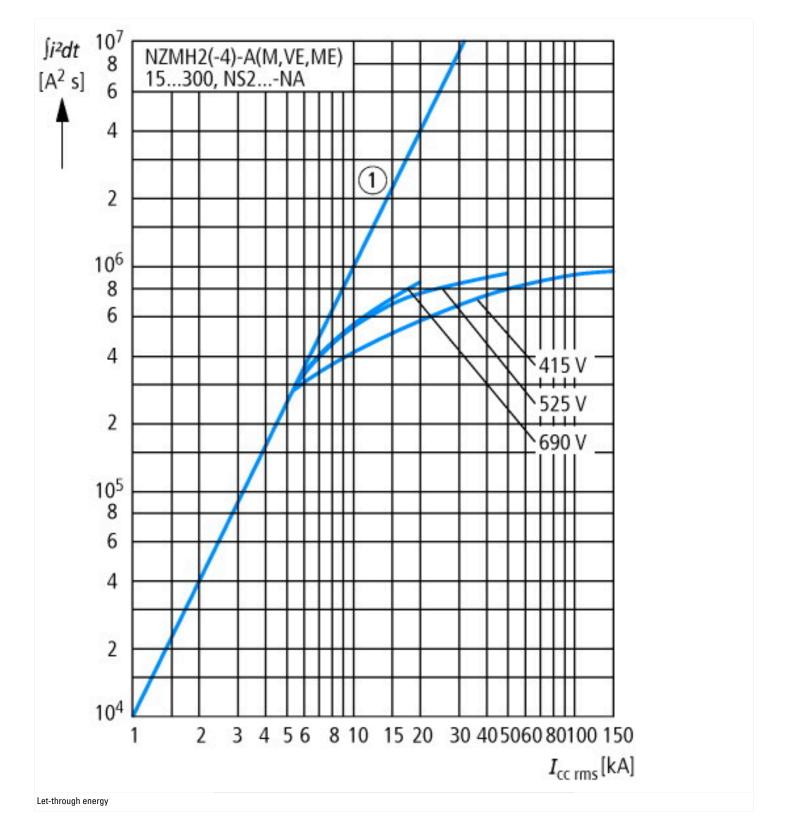
 $Low-voltage\ industrial\ components\ (EG000017)\ /\ Power\ circuit-breaker\ for\ trafo/generator/installation\ protection\ (EC000228)$

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])

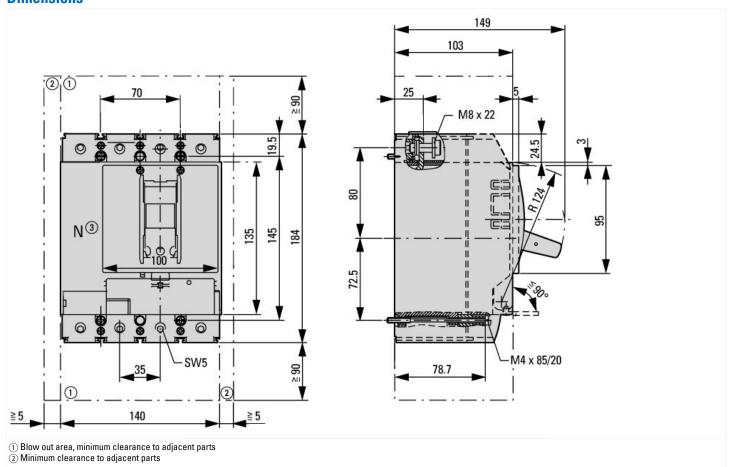
Rated voltage Rated voltage Rated short-circuit breaking capacity Icu at 400 V, 50 Hz Overload release current setting ADUST STATE	protection (eci@ss10.0.1-27-37-04-09 [AJZ/16013])		
Rated short-circuit breaking capacity lcu at 400 V, 50 Hz Overload release current setting A 100 - 125 Adjustment range short-term delayed short-circuit release A 0 - 0 Adjustment range undelayed short-circuit release A 6 - 10 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 With switched-off indicator With switched-off indicator With under voltage release Number of poles Position of connection for main current circuit Type of control element Complete device with protection unit Motor drive optional Motor drive optional Motor drive optional KA 100 - 105 No Society connection No Screw connection No Serve connection No No Screw connection No No Screw connection No No October plug-in technique No No No October plug-in technique No No No October plug-in technique No No No October plug-in technique No	Rated permanent current lu	Α	125
Overload release current setting A 100 - 125 Adjustment range short-term delayed short-circuit release A 0 - 0 Adjustment range undelayed short-circuit release A 6 - 10 Integrated earth fault protection No Screw connection Type of electrical connection of main circuit Suitable for DIN rail (top hat rail) mounting Built-in device plug-in technique Suitable for DIN rail (top hat rail) mounting optional Yes No Number of auxiliary contacts as normally closed contact 0 0 Number of auxiliary contacts as change-over contact 0 0 With switched-off indicator No No With under voltage release No No Number of poles 4 4 Position of connection for main current circuit Front side Front side Type of control element Rocker lever Rocker lever Complete device with protection unit Yes No Motor drive integrated No No	Rated voltage	V	690 - 690
Adjustment range short-term delayed short-circuit release Adjustment range undelayed short-circuit release A 6 - 10 No Type of electrical connection of main circuit Device construction Suitable for DIN rail (top hat rail) mounting DIN rail (top hat rail) mounting optional No 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 No With switched-off indicator With switched-off indicator No With under voltage release Number of poles A 6 - 10 No No No No No With under voltage release No No No No No No No No No No	Rated short-circuit breaking capacity Icu at 400 V, 50 Hz	kA	150
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 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 Nith switched-off indicator Nith under voltage release Number of poles Number of poles Versition of connection for main current circuit Type of control element Complete device with protection unit Motor drive integrated Motor drive optional	Overload release current setting	Α	100 - 125
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 No 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 No With switched-off indicator No 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	Adjustment range short-term delayed short-circuit release	Α	0 - 0
Type of electrical connection of main circuit Device construction Built-in device plug-in technique No No 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 No With switched-off indicator No 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 No Motor drive optional	Adjustment range undelayed short-circuit release	Α	6 - 10
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 poles No	Type of electrical connection of main circuit		Screw connection
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 No With switched-off indicator With under voltage release No Number of poles Acceptable Position of connection for main current circuit Type of control element Complete device with protection unit Motor drive integrated Motor drive optional Yes Yes 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 No With switched-off indicator With under voltage release No No Number of poles 4 Position of connection for main current circuit Type of control element Complete device with protection unit Motor drive integrated Motor drive optional O Acceptable device with protection unit No Motor drive optional	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 No With switched-off indicator 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 O O No	DIN rail (top hat rail) mounting optional		Yes
Number of auxiliary contacts as change-over contact With switched-off indicator No 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 Rocker lever Yes No Yes	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 Type of control element Complete device with protection unit Motor drive optional No No No No No No No No No Yes	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 No No No No No Yes	Number of auxiliary contacts as change-over contact		0
Number of poles 4 Position of connection for main current circuit Type of control element Complete device with protection unit Motor drive integrated Motor drive optional 4 Rocker lever Rocker lever Yes Motor drive optional 4 Rocker lever Rocker lever 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 Front side 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		Front side
Motor drive integrated No Motor drive optional 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) IP20	Motor drive optional		Yes
	Degree of protection (IP)		IP20

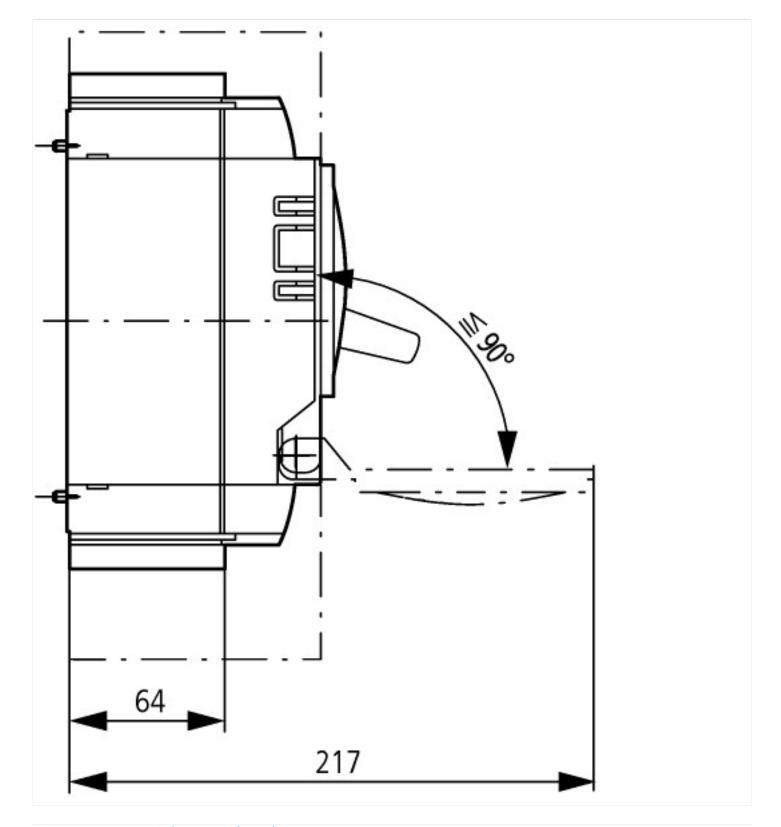






Dimensions





Additional product information (links)

Temperature dependency, Derating	http://ecat.moeller.net/flip-cat/?edition=HPLEN&startpage=17.172
CurveSelect characteristics program	http://www.eaton.eu/DE/Europe/Electrical/CustomerSupport/ConfigurationTools/CharacteristicsProgram/index.htm
additional technical information for NZM power switch	https://es-assets.eaton.com/DOCUMENTATION/PDF/nzm_technic_de_en.pdf