DATASHEET - NZMN1-M100



Circuit-breaker, 3p, 100A

NZMN1-M100 Part no. Catalog No. 265722

EL-Nummer (Norway)

4358901





Delivery program			
Product range			Circuit-breaker
Protective function			Motor protection
Protective function			IE3 ✓
Standard/Approval			IEC
Installation type			Fixed
Release system			Thermomagnetic release
Construction size			NZM1
Description			With phase-failure sensitivity Tripping class 10 A IEC/EN 60947-4-1, IEC/EN 60947-2 The picture the place fulfills all provinements for AC 2 quitables page 200.
Number of poles			The circuit-breaker fulfills all requirements for AC-3 switching category.
Number of poles			3 pole
Standard equipment Control in a page of the			Box terminal
Switching capacity			
400/415 V 50 Hz	I _{cu}	kA	50
Rated current = rated uninterrupted current	$I_n = I_u$	Α	100
Setting range			
Overload trip			
中	l _r	Α	80 - 100
Short-circuit releases			
Non-delayed	$I_i = I_n x \dots$		8 - 12.5
Motor rating AC-3 50/60 Hz			
380 V 400 V	Р	kW	45
Motor rating AC-3 50/60 Hz			
400 V	Р	kW	45
Rated operational current AC-3 50/60 Hz			
400 V	I _e	Α	99
100 *	.6	, ·	

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 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 with remote operator: - NZM4, 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		٨	100
Rated current = rated uninterrupted current	I _n = I _u	Α	100
Rated surge voltage invariability	U _{imp}		
Main contacts		V	6000
Auxiliary contacts		V	6000
Rated operational voltage	U _e	V AC	690
Overvoltage category/pollution degree		V	III/3
Rated insulation voltage	Ui	V	690
Use in unearthed supply systems Switching capacity		V	≦ 690
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		kA	74
	I _{cm}		
525 V 50/60 Hz	I _{cm}	kA	40
690 V 50/60 H	lc	kA	17
Rated short-circuit breaking capacity I _{cn}	I _{cn}		
Icu to IEC/EN 60947 test cycle 0-t-C0	Icu	kA	or.
240 V 50/60 Hz	I _{cu}	kA	85
400/415 V 50/60 Hz	I _{cu}	kA	50
440 V 50/60 Hz	I _{cu}	kA	35
525 V 50/60 Hz	I _{cu}	kA	20
690 V 50/60 Hz	I _{cu}	kA	10
Ics to IEC/EN 60947 test cycle 0-t-C0-t-C0	Ics	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	10
690 V 50/60 Hz	I _{cs}	kA	7.5
			Maximum back-up fuse, if the expected short-circuit currents at the installation location exceed the switching capacity of the circuit-breaker.
Utilization category to IEC/EN 60947-2			A

M50 V 5850 Pt.	AC-1			
Marchest	400 V 50/60 Hz	Operations		10000
March Marc	415 V 50/60 Hz			10000
6460 V Salpa 1s 1 Operation 1 TSD 6480 V Salpa 1s 1 Operation 1 100 6480 V Salpa 1s 1 Operation 1 100 Maccounting frequency Operation 1 100 Terminal company Windows (appear of sequence) Social sequence of commend of sequence of commend of sequence of commend of sequence of sequenc	690 V 50/60 Hz			7500
14 15 15 15 15 15 15 15	AC3			
Bibly 10 Bibly 1	400 V 50/60 Hz	Operations		7500
Max. operating frequency page 10 Total book time at short-viscol max 10 Terminal carpet max 10 Total book time at short-viscol max 10 Terminal carpet South carpet and pulse at the seminal and carpet senductor South carpet senductor 10 Box strained page 3 10	415 V 50/60 Hz	Operations		7500
Total processor Total proc	690 V 50/60 Hz	Operations		5000
Terminal capacity Sector designation of the properties of the	Max. operating frequency		0ps/h	120
Standard squipment Service connection Service connection Round copper conductor For the streament of	Total break time at short-circuit		ms	<10
Optional accessories Convencementation Solvencementation conveau Round capper conductor Very 100 connection on rear Solid Very 100 connection on rear Solid Very 100 convention on rear Stranded Very 100 convention on rear Stranded Very 100 convention on rear Tunnel terminal Very 100 convention on rear Tunnel terminal Very 100 convention on rear Solid Very 100 convention on rear Tunnel terminal Very 100 convention on rear Solid Very 100 convention on rear and econocited depending on the cable manufacture. Solid Very 100 convention on rear Solid Very 100 convention on rear Solid Very 100 convention o	Terminal capacity			
Round copper conductor Box terminal Solid Siranded Solid Sol	Standard equipment			Box terminal
Solid Soli	Optional accessories			Tunnel terminal
Solid Stranded S	Round copper conductor			
Stranded	Box terminal			
Stranded	Solid		mm ²	1 x (10 - 16)
Tunnol torminal Solid Stranded 1-hole Bott terminal and rear-side connection Direct on the switch Solid Stranded 1-m² 1 x (25-95) 1 x (10-16) 2 x (26-10) 1 x (10-10) 2 x (10-10) 3 x	Strandad		2	
Tunnel terminal Solid I 1-hole I 1-hole Bolt tarminal and rear-side connection Direct on the switch Al circular conductor Tunnel terminal Solid I 1 × 10 - 16) 2 × 6 - 16) Stranded I 1 × 10 - 16) 2 × 6 - 16) Stranded I 1 × 10 - 16) 2 × 6 - 16) Stranded I 1 × 10 - 16) 2 × 6 - 16) Stranded I 1 × 10 - 16) 2 × 6 - 16) Stranded I 1 × 10 - 10, III × 10 - 16, III × 10	stranded		mm²	1 x (10 - 70) ³ / 2 x (6-25)
Tunnel terminal Solid March Solid March Stranded March Stranded March Marc				
Solid	Tunnel terminal			ор to ээ min can be connected depending on the cable manufacturer.
Stranded			2	1 v 16
1-hole			mm²	1 X 10
Bolt terminal and rear-side connection Direct on the switch Solid Ima Ix (10 - 16) 2 x (6 - 16) 3 x (10 - 70) 3 x				
Direct on the switch Solid Stranded Mm2 1 x (10 - 16) 2 x (5 - 16) 3 ty to 95 mm² can be connected depending on the cable manufacturer. Al circular conductor Tunnel terminal Solid Mm2 Stranded Stranded Stranded Mm3 Stranded Mm4 Solid Mm6 Stranded Mm8 Mm8 Mm8 Mm9 Stranded Mm8 Mm9 Mm8 Mm9 Mm8 Mm9 Mm9 Mm8 Mm9 Mm8 Mm9 Mm8 Mm9 Mm8 Mm9 Mm9	1-hole		mm ²	1 x (25 - 95)
Notice N	Bolt terminal and rear-side connection			
Stranded	Direct on the switch			
	Solid		mm ²	1 x (10 - 16) 2 x (6 - 16)
Al circular conductor Tunnel terminal Tunn	Stranded		mm ²	1 x (10 - 70) ³⁾
Al circular conductor Tunnel terminal Tunn				3) Up to 95 mm² can be connected depending on the cable manufacturer.
Solid	Al circular conductor			
Stranded mm² 1 x (25 - 95) Bolt terminal and rear-side connection mm² 1 x (25 - 95) Direct on the switch mm² 1 x (10 - 16) Stranded mm² 1 x (25 - 35) Stranded mm² 1 x (25 - 35) Cu strip (number of segments x width x segment thickness) y x (25 - 35) Box terminal min. mm 2 x 9 x 0.8 Copper busbar (width x thickness) mm 9 x 9 x 0.8 Bolt terminal and rear-side connection mm 9 x 9 x 0.8 Bolt terminal and rear-side connection M6 Direct on the switch min. mm 12 x 5 max. mm 16 x 5	Tunnel terminal			
Stranded mm² 1 x (25 - 95) Bolt terminal and rear-side connection mm² 1 x (25 - 95) Direct on the switch mm² 1 x (10 - 16) Stranded mm² 1 x (25 - 35) Stranded mm² 1 x (25 - 35) Cu strip (number of segments x width x segment thickness) y x (25 - 35) Box terminal min. mm 2 x 9 x 0.8 Copper busbar (width x thickness) mm 9 x 9 x 0.8 Bolt terminal and rear-side connection mm 9 x 9 x 0.8 Bolt terminal and rear-side connection M6 Direct on the switch min. mm 12 x 5 max. mm 16 x 5	Solid		mm ²	1 x 16
Stranded	Stranded			
Bolt terminal and rear-side connection Direct on the switch Solid mm² 1 x (10 - 16) 2 x (10 - 16) 2 x (10 - 16) 3 tranded mm² 1 x (25 - 35) 2 x (25 - 35) Cu strip (number of segments x width x segment thickness) Box terminal min. mm 2 x 9 x 0.8 max. mm 9 x 9 x 0.8 Copper busbar (width x thickness) Bolt terminal and rear-side connection Screw connection Direct on the switch min. mm 12 x 5 max. mm 16 x 5			2	1 x (25 - 95)
Direct on the switch			111111	
Note				
Stranded			2	1 v (10 - 16)
Cu strip (number of segments x width x segment thickness) Box terminal min. mm 2 x 9 x 0.8 max. mm 9 x 9 x 0.8 Copper busbar (width x thickness) Bolt terminal and rear-side connection Screw connection Direct on the switch min. mm 12 x 5 max. mm 16 x 5	Cond		mm ⁻	2 x (10 - 16)
Box terminal min. mm 2 x 9 x 0.8 max. mm 9 x 9 x 0.8 Copper busbar (width x thickness) mm Bolt terminal and rear-side connection Screw connection Direct on the switch min. mm 12 x 5 max. mm 16 x 5			mm ²	
min. mm 2 x 9 x 0.8 max. mm 9 x 9 x 0.8 Copper busbar (width x thickness) mm Bolt terminal and rear-side connection Screw connection Direct on the switch min. mm 12 x 5 max. mm 16 x 5				
max. mm 9 x 9 x 0.8 Copper busbar (width x thickness) mm Bolt terminal and rear-side connection Screw connection M6 Direct on the switch min. mm 12 x 5 max. mm 16 x 5	Box terminal			
Bolt terminal and rear-side connection Screw connection Direct on the switch min. mm 12 x 5 max. mm 16 x 5				
Screw connection Direct on the switch min. mm 12 x 5 max. mm 16 x 5	Copper busbar (width x thickness)	mm		
Direct on the switch min. mm 12 x 5 max. mm 16 x 5	Bolt terminal and rear-side connection			
min. mm 12 x 5 max. mm 16 x 5	Screw connection			M6
max. mm 16 x 5	Direct on the switch			
		min.	mm	12 x 5
		max.	mm	16 x 5
Control cables	Control cables			
mm ² 1 x (0.75 - 2.5) 2 x (0.75 - 1.5)			mm ²	

Design verification as per IEC/EN 61439

2001gii 1011110411011 40 poi 120/211 01 100			
Technical data for design verification			
Rated operational current for specified heat dissipation	In	Α	100
Equipment heat dissipation, current-dependent	P _{vid}	W	23.85
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 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

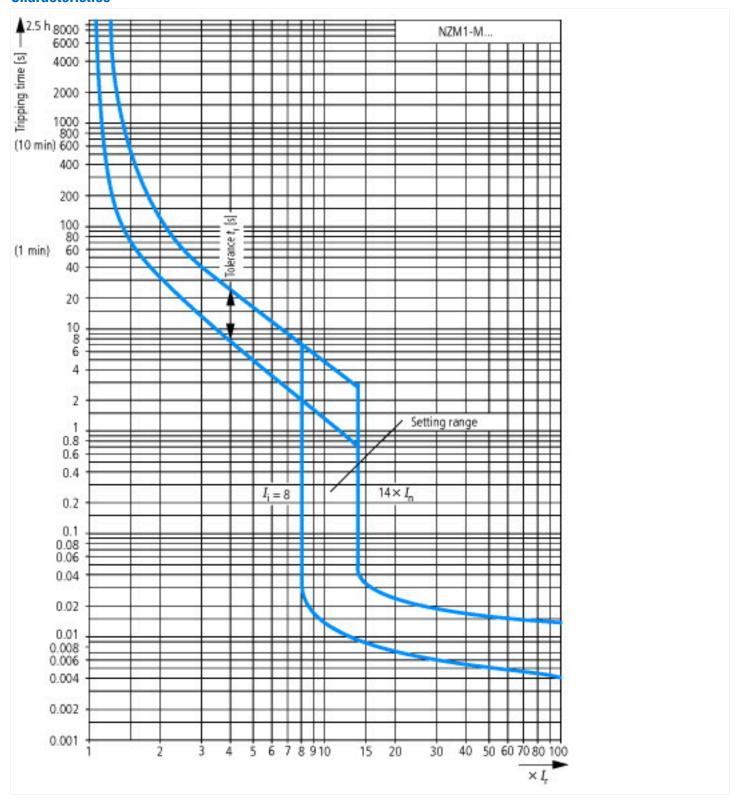
Low-voltage industrial components (EG000017) / Motor protection circuit-breaker (EC000074)

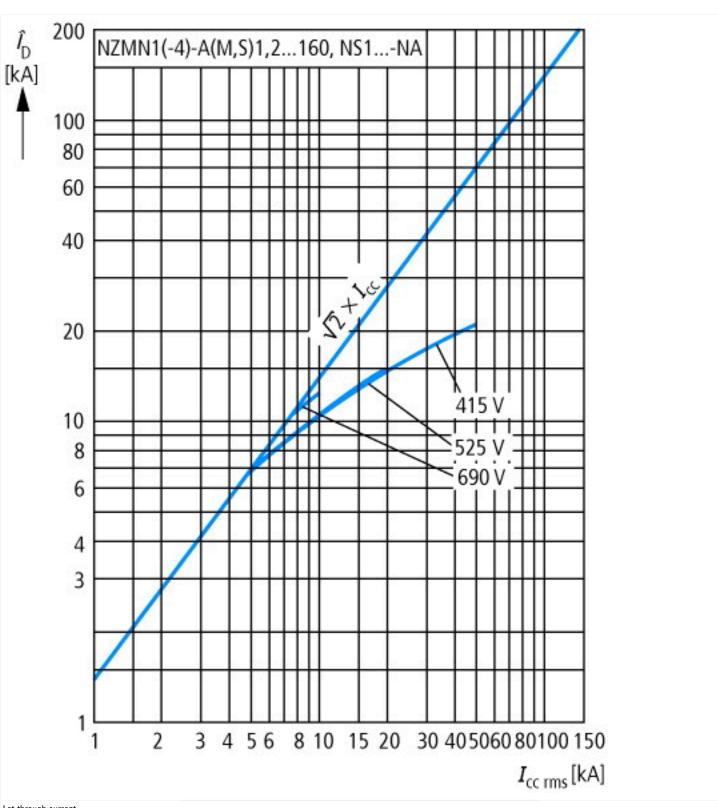
Electric engineering, automation, process control engineering / Low-voltage switch technology / Circuit breaker (LV < 1 kV) / Motor protection circuit-breaker (ecl@ss10.0.1-27-37-04-01 [AGZ529016])

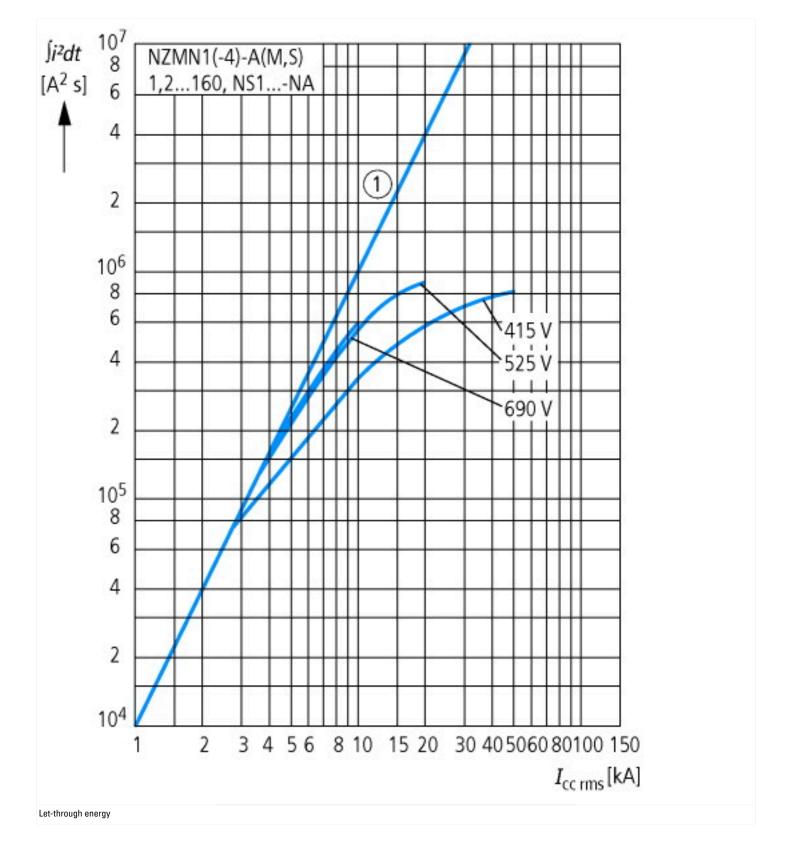
[AGZ529016])		
Overload release current setting	Α	80 - 100
Adjustment range undelayed short-circuit release	А	800 - 1250
With thermal protection		Yes
Phase failure sensitive		Yes
Switch off technique		Thermomagnetic
Rated operating voltage	V	690 - 690
Rated permanent current lu	Α	100
Rated operation power at AC-3, 230 V	kW	30
Rated operation power at AC-3, 400 V	kW	55
Type of electrical connection of main circuit		Other
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 Icu at 400 V, AC	kA	50
Degree of protection (IP)		IP20

Height	mm	145
Width	mm	90
Depth	mm	88

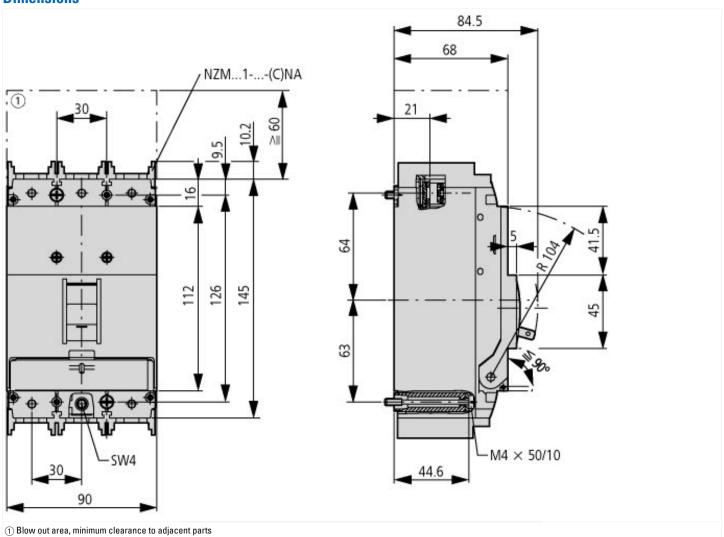
Characteristics

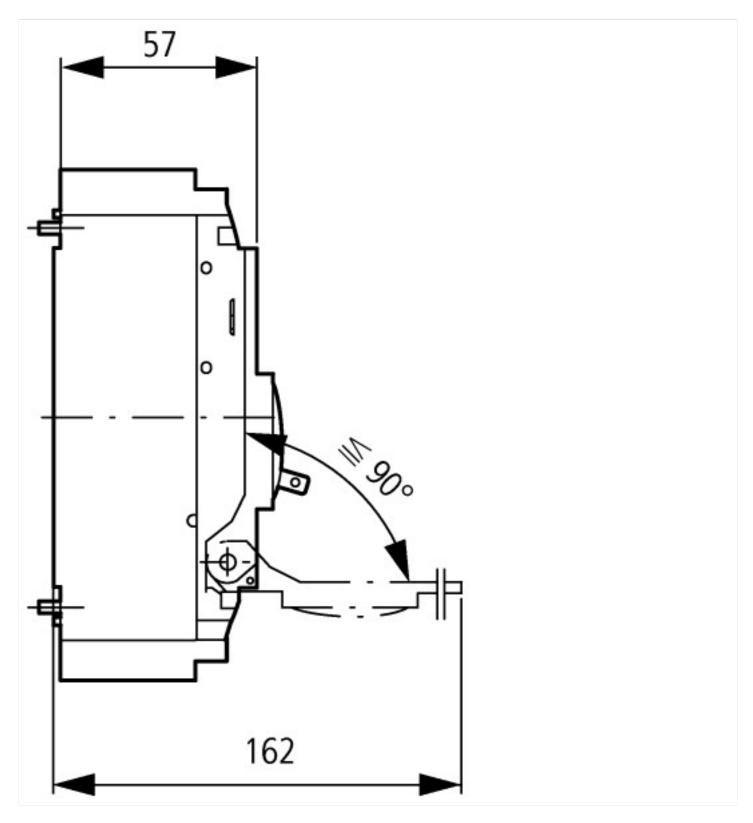






Dimensions





Additional product information (links)

The state of the s	
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