DATASHEET - NZMB1-4-A125



Circuit-breaker, 4p, 125A

Part no. NZMB1-4-A125 Catalog No. 265809

EL-Nummer (Norway) 0004358820





Delivery program

Delivery program			
Product range			Circuit-breaker
Protective function			System and cable protection
Standard/Approval			IEC
Installation type			Fixed
Release system			Thermomagnetic release
Construction size			NZM1
Description			Set value in neutral conductor is synchronous with set value Ir of main pole.
Number of poles			4 pole
Standard equipment			Box terminal
Switching capacity			
400/415 V 50 Hz	I _{cu}	kA	25
Rated current = rated uninterrupted current			
Rated current = rated uninterrupted current	$I_n = I_u$	Α	125
Neutral conductor	% of phase conductor	CSA	100
Setting range			
Overload trip			
4	I _r	Α	100 - 125
Main pole	l _r	Α	100 - 125
Short-circuit releases			
Non-delayed	$I_i = I_n x \dots$		6 - 10
Short-circuit releases	I _{rm}	Α	750 - 1250

Technical data

General

delleral		
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

Muniting pasition Provided and formation and door in all directions which plan in many in plant in the plan in many in plant in the plan in many in plant in many in	between the auxiliary contacts		V AC	300
Direction of heaming surgely In the content of the			V AU	
December of protection Bowleam In the operating carnior is rack: IP20 (basic degree of protection) Encholusers With insulating surrounds. IP80 (basic degree of protection) Chroniculares The minimitions With insulating surrounds. IP80 (basic degree of protection) Chroniculares The minimitions The minimitions The minimitions of the minimition of the minimit	Mounting position			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
Deliverice	Direction of incoming supply			as required
Enclosures	Degree of protection			
Terminations	Device			In the operating controls area: IP20 (basic degree of protection)
Pase isolater and strip terminal: PDG Pose	Enclosures			
Circuit-breakers Rated surprivate current rated uninterrupted current In = I_o A 125 Atted surprivate polity Up Up Wash Audinic contacts Up Wash 600 Rated opprazional voltage Up Wash 400 Overvoltage exclusion voltage Up Wash 400 Use in unaerthod supply systems Very E440 Switching capacity Fem Va 33 440 V S000 Hz Ican KA 33 440 V S000 Hz Ican KA 33 8 Rated short-riccut intraking capacity Ican Ican KA 33 4 600 V S000 Hz Ican KA 33 8 Rated short-riccut intraking capacity Ican Ican KA 33 8 Rated short-riccut intraking capacity Ican Ican KA 33 8 Rated short-riccut intraking capacity Ican Ican KA 33 9 V S000 Hz Ican KA 32 4 440 V S000 Hz Ican KA 32				
Rated current = rated uninterrupted current In = Iu, Uing APU 25 Rated surge voltage invariability Vumber on contects Vomo 6000 6000 Auxiliary contracts Ug VXL 440 Auxiliary contracts Ug VXL 440 Chard-departational voltage Ug VX 450 Chard-dispose category/pollution degree Ug VX 450 Rated insulation voltage Ug VX 450 Lein inneranted supply existems Ug VX 440 Lein inneranted supply existems Ug VX 440 240 V VX AX 53 A00415 V VX AX 53 A00415 V VX XX 53 A00415 V VX XX 53 VX VX XX 53 VX VX XX 53 VX XX XX 25 VX XX XX 25 VX XX </td <td></td> <td></td> <td></td> <td>Temperature dependency, Derating</td>				Temperature dependency, Derating
Main contacts		I I	Δ	125
Main contacts	,		^	120
Auxiliary contacts		U _{imp}	V	coop.
Rated operational voltage				
New Noting a category/pollution degree 10 10 10 10 10 10 10				
Name of the display systems Ui		Ue	V AC	
Use in unearthed supply systems Switching capacity Rated short-circuit making capacity 40 V 400			.,	
Switching capacity Rated short-circuit making capacity 240 V 400/415 V 400/415 V 400/415 V 400/415 V 400/415 V 500/60 Hz 1cu to IEC/EN 60947 test cycle 0-t-CO 1cu to IEC/EN 60947 test cycle 0-t-CO 1cu to IEC/EN 60947 test cycle 0-t-CO-t-CO 1cu to IEC/EN 60947-2 1cu to IE		Ui		
Rated short-circuit making capacity Icm			V	≦ 440
240 V 1cm		l		
400/415 V 1cm KA 53 Rated short-circuit breaking capacity I _{cn} 1cm KA 53 Rated short-circuit breaking capacity I _{cn} 1cm KA 53 Rated short-circuit breaking capacity I _{cn} 1cm KA 53 Rated short-circuit breaking capacity I _{cn} 1cm KA 53 Rated short-circuit breaking capacity I _{cn} 1cm KA 30 240 V 50/60 Hz 1cm KA 25 440 V 50/60 Hz 1cm KA 25 Lies to IEC/EN 60947 test cycle 0-t-C0-t-C0 1cs KA 25 Lies to IEC/EN 60947 test cycle 0-t-C0-t-C0 1cs KA 30 400/415 V 50/60 Hz 1cs KA 30 400/415 V 50/60 Hz 1cs KA 25 440 V 50/60 Hz 1cs KA 25 45			kΔ	63
Adu V 50/60 Hz				
Rated short-circuit breaking capacity c_n				
Icu to IEC/EN 60947 test cycle 0-+CO	·		KA	53
Care	- · · · · · · · · · · · · · · · · · · ·			
400/415 V 50/60 Hz 440 V 50/60 Hz 1cs to IEC/EN 60947 test cycle 0-t-CO-t-CO 1cs kA 240 V 50/60 Hz 400/415 V 50/60 Hz 1cs kA 25 440 V 50/60 Hz 1cs kA 18.5 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 Lifespan, mechanical(of which max. 50 % trip by shunt/undervoltage release) AC-1 400 V 50/60 Hz Operations 7500 Max. operating frequency Total break time at short-circuit Terminal capacity Standard equipment Optional accessories Box terminal Optional accessories				
440 V 50/60 Hz Ics to IEC/EN 60947 test cycle 0-t-CO-t-CO Ics kA 240 V 50/60 Hz 400/415 V 50/60 Hz Ics kA 25 440 V 50/60 Hz Ics kA 25 440 V 50/60 Hz Ics kA 25 440 V 50/60 Hz Ics kA 18.5 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 Lifespan, mechanical(of which max. 50 % trip by shunt/undervoltage release) AC-1 400 V 50/60 Hz Operations 7500 Max. operating frequency Operations 7500 Max. operating frequency Operations 7500 Total break time at short-circuit Terminal capacity Standard equipment Optional accessories Screw connection				
Ics to IEC/EN 60947 test cycle 0-t-C0-t-C0 Ics kA 240 V 50/60 Hz 400/415 V 50/60 Hz 440 V 50/60 Hz Lics kA 1cs kA 25 440 V 50/60 Hz Lifespan, mechanical(of which max. 50 % trip by shunt/undervoltage release) Lifespan, electrical AC-1 400 V 50/60 Hz Operations Operations Operations Operations Total break time at short-circuit Terminal capacity Standard equipment Optional accessories Screw connection		I _{cu}		
240 V 50/60 Hz I _{cs}		I _{cu}	kA	25
400/415 V 50/60 Hz 440 V 50/60 Hz Liss kA 25 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 Lifespan, mechanical(of which max. 50 % trip by shunt/undervoltage release) AC-1 400 V 50/60 Hz Operations Operations Operations 7500 Max. operating frequency Total break time at short-circuit Terminal capacity Standard equipment Optional accessories Screw connection	Ics to IEC/EN 60947 test cycle 0-t-C0-t-C0	Ics	kA	
440 V 50/60 Hz Lifespan, mechanical(of which max. 50 % trip by shunt/undervoltage release) Lifespan, electrical AC-1 400 V 50/60 Hz Operations A15 V 50/60 Hz Operations Operations A3 V 50/60 Hz Operations Operations Operations Operations Operations Operations Total break time at short-circuit A5 V 50/60 Hz Operations Operations Operations Operations Ops/h 120 Total break time at short-circuit Terminal capacity Standard equipment Optional accessories Screw connection	240 V 50/60 Hz	I _{cs}	kA	30
Maximum back-up fuse, if the expected short-circuit currents at the installation category to IEC/EN 60947-2 Lifespan, mechanical(of which max. 50 % trip by shunt/undervoltage release) Lifespan, electrical AC-1 400 V 50/60 Hz Operations Operations Operations Operations 7500 415 V 50/60 Hz Operations Operations Operations Ops/h 120 Total break time at short-circuit Terminal capacity Standard equipment Optional accessories Box terminal Optional accessories Screw connection	400/415 V 50/60 Hz	I _{cs}	kA	25
Cocation exceed the switching capacity of the circuit-breaker. Utilization category to IEC/EN 60947-2	440 V 50/60 Hz	I _{cs}	kA	18.5
Lifespan, mechanical(of which max. 50 % trip by shunt/undervoltage release) Lifespan, electrical AC-1 400 V 50/60 Hz Operations Operations 7500 Max. operating frequency Total break time at short-circuit Terminal capacity Standard equipment Optional accessories Derations 20000 20000 Derations 7500 7500 Derations 7500 Box terminal Screw connection				Maximum back-up fuse, if the expected short-circuit currents at the installation location exceed the switching capacity of the circuit-breaker.
Lifespan, electrical AC-1 400 V 50/60 Hz Operations 7500 415 V 50/60 Hz Operations 7500 Max. operating frequency Ops/h 120 Total break time at short-circuit ms < 10 Terminal capacity Standard equipment Descriptions Box terminal Optional accessories Screw connection	Utilization category to IEC/EN 60947-2			А
AC-1 400 V 50/60 Hz Operations 7500 415 V 50/60 Hz Operations 7500 Max. operating frequency Ops/h 120 Total break time at short-circuit ms < 10 Terminal capacity Standard equipment Optional accessories Box terminal Screw connection		Operations		20000
400 V 50/60 Hz 415 V 50/60 Hz Operations Operations 7500 Max. operating frequency Ops/h 120 Total break time at short-circuit ms < 10 Terminal capacity Standard equipment Descriptions Box terminal Optional accessories Screw connection				
415 V 50/60 Hz Max. operating frequency Total break time at short-circuit Terminal capacity Standard equipment Operations Terminal capacity Standard equipment Standard equipment Optional accessories Terminal capacity Screw connection		Operations		7500
Max. operating frequency Total break time at short-circuit ms < 10 Terminal capacity Standard equipment Description of the property of th				
Total break time at short-circuit ms < 10 Terminal capacity Standard equipment Box terminal Optional accessories Screw connection	Max. operating frequency		Ops/h	120
Standard equipment Box terminal Optional accessories Screw connection	Total break time at short-circuit		ms	<10
Optional accessories Screw connection	Terminal capacity			
	Standard equipment			Box terminal
connection on rear	Optional accessories			Tunnel terminal
Round copper conductor	Round copper conductor			

Box terminal			
Solid		mm ²	1 x (10 - 16) 2 x (6 - 16)
Stranded		mm ²	1 x (10 - 70) ³⁾ 2 x (6-25)
			³⁾ Up to 95 mm² can be connected depending on the cable manufacturer.
Tunnel terminal			
Solid		mm ²	1 x 16
Stranded			
1-hole		mm^2	1 x (25 - 95)
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 (10 - 70) ³⁾ 2 x 25
			³⁾ Up to 95 mm² can be connected depending on the cable manufacturer.
circular conductor			
Tunnel terminal			
Solid		mm^2	1 x 16
Stranded			
Stranded		mm ²	1 x (25 - 95)
Bolt terminal and rear-side connection			
Direct on the switch			
Solid		mm ²	1 x (10 - 16) 2 x (10 - 16)
Stranded		mm ²	1 x (25 - 35) 2 x (25 - 35)
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
opper 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
ontrol cables			
		mm ²	1 x (0.75 - 2.5) 2 x (0.75 - 1.5)

Design verification as per IEC/EN 61439

Technical data for decign varification			
Technical data for design verification			
Rated operational current for specified heat dissipation	In	Α	125
Equipment heat dissipation, current-dependent	P_{vid}	W	26.72
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.

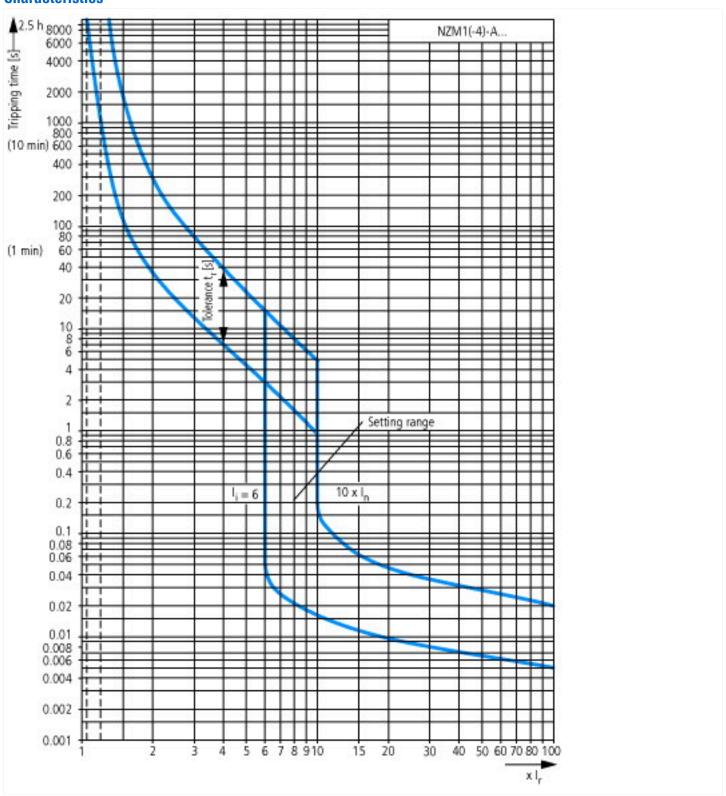
Technical data ETIM 7.0

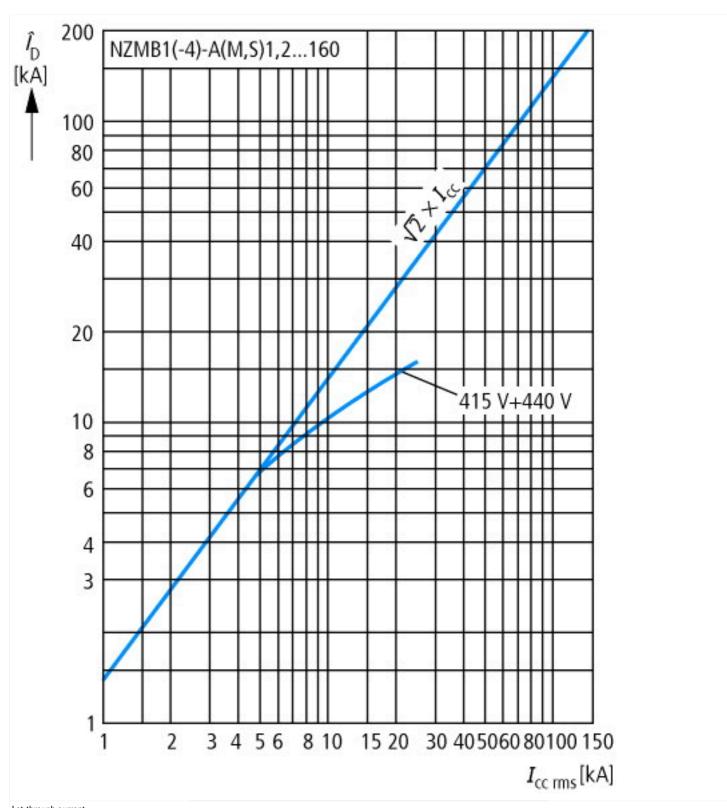
Low-voltage industrial components (EG000017) / Power circuit-breaker for trafo/generator/installation protection (EC000228)

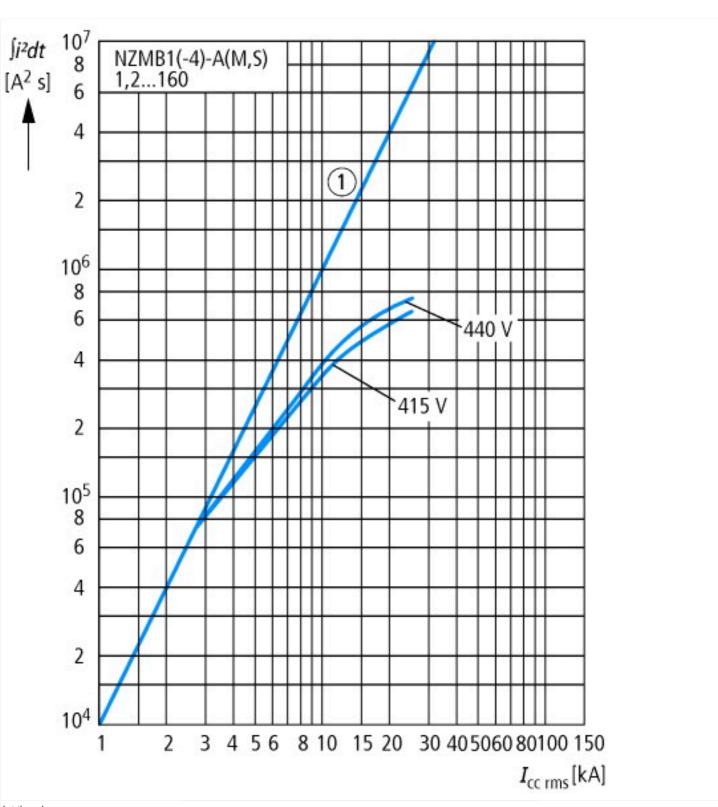
Electric engineering, automation, process control engineering / Low-voltage switch technology / Circuit breaker (LV < 1 kV) / Circuit breaker for power transformer, generator and system protection (eci@ss10.0.1-27-37-04-09 [AJZ716013])

protection (ecl@ss10.0.1-27-37-04-09 [AJZ716013])		
Rated permanent current lu	Α	125
Rated voltage	V	440 - 440
Rated short-circuit breaking capacity Icu at 400 V, 50 Hz	kA	25
Overload release current setting	Α	100 - 125
Adjustment range short-term delayed short-circuit release	Α	0 - 0
Adjustment range undelayed short-circuit release	А	6 - 10
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		4
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		No
Degree of protection (IP)		IP20

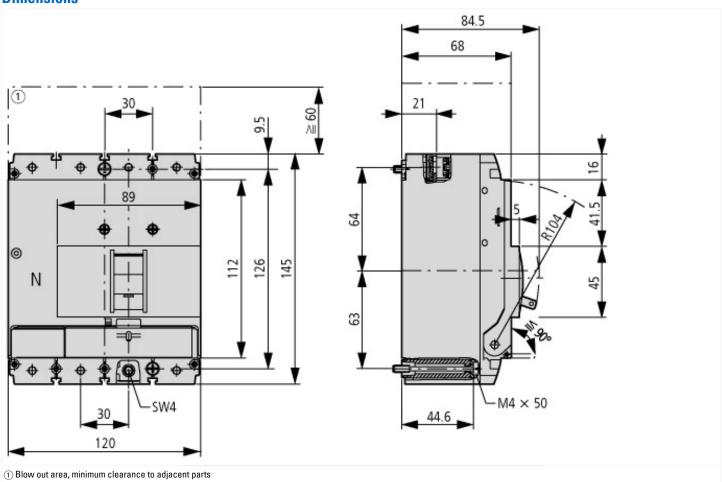
Characteristics

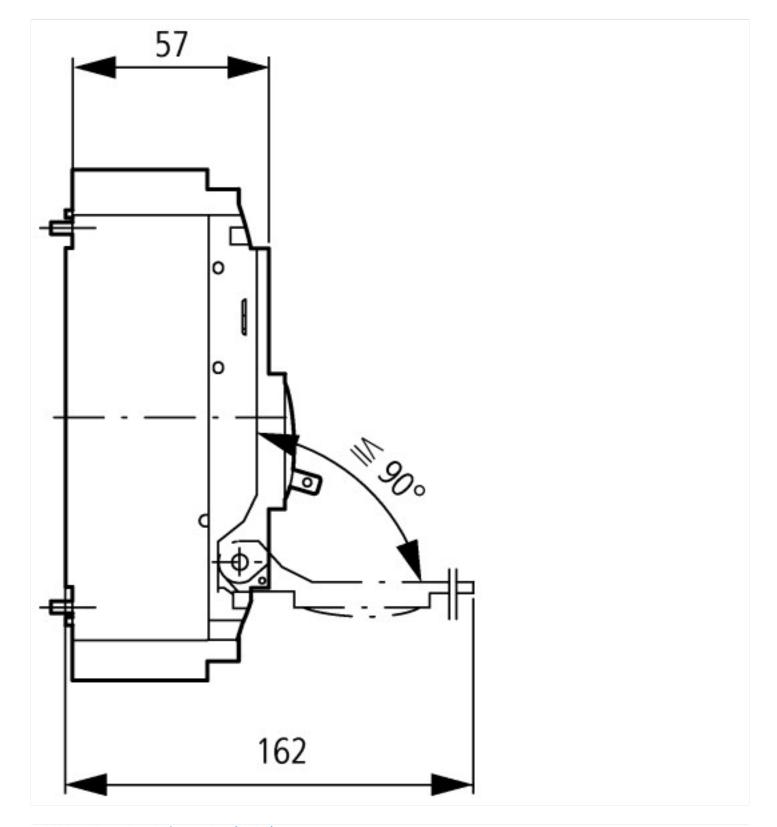






Dimensions





Additional product information (links)

IL01203004Z (AWA1230-1913) Circuit-breaker, Switch-Disconnector		
IL01203004Z (AWA1230-1913) Circuit-breaker, Switch-Disconnector	ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL01203004Z2015_11.pdf	
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	ftp://ftp.moeller.net/DOCUMENTATION/PDF/nzm_technic_de_en.pdf	