



Molded Case Switch, 3p, 100A

Part no. NS1-100-NA
Catalog No. 102682

EL-Nummer (Norway) 0004315506



Similar to illustration

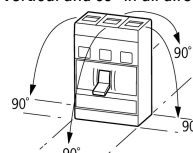
Delivery program

Product range			Switch-disconnectors
Protective function			Disconnectors/main switches
Standard/Approval			UL/CSA, IEC
Installation type			Fixed
Construction size			N1
Description			IEC/EN 60947-2: Circuit-breakers without overcurrent (CBI-X) with main switch characteristics and isolating characteristics to IEC/EN 60204.
Number of poles			3 pole
Standard equipment			Box terminal
Switch positions			I, +, 0
Rated current = rated uninterrupted current	$I_n = I_u$	A	100
Rated current = rated uninterrupted current	$I_n = I_u$	A	100
Switching capacity			
SCCR 480Y/277 V 60 Hz	I_{cu}	kA	35
Short-circuit releases			
Non-delayed	$I_i = I_n \times \dots$		1250 A fixed

Technical data

Switch-disconnectors

Rated surge voltage invariability	U_{imp}		
Main contacts		V	6000
Auxiliary contacts		V	6000
Rated operational voltage	U_e	V AC	690
Rated current = rated uninterrupted current	$I_n = I_u$	A	100
Rated current = rated uninterrupted current	$I_n = I_u$	A	100
Rated uninterrupted current	I_u	A	
IEC/EN 61131-3	I_u	A	125
UL 489, CSA 22.2 No. 5.1	I_u	A	125
Overvoltage category/pollution degree			III/3
Rated insulation voltage	U_i	V	690
Other technical data (sheet catalogue)			Weight Temperature dependency, Derating Effective power loss
Ambient temperature			
Ambient temperature, storage		°C	- 40 - + 70
Operation		°C	-25 - +70
Mounting position			Vertical and 90° in all directions



With residual-current release XFI:
- NZM1, N1, NZM2, N2: vertical and 90° in all directions with plug-in adapter elements
- NZM1, N1, NZM2, N2: vertical, 90° right/left with withdrawable unit:

			- NZM3, N3: vertical, 90 ° 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 area of the HMI devices: IP20 (basic protection type)
Enclosures			With insulating surround: IP40 With door coupling rotary handle: IP66
Terminations			Tunnel terminal: IP10 Phase isolator and band terminal: IP00

Switching capacity (UL489, CSA 22.2 No. 5.1)

SCCR 240 V 60 Hz	I _{cu}	kA	85
SCCR 480Y/277 V 60 Hz	I _{cu}	kA	35

Rated short-circuit making capacity

240 V 50/60 Hz	I _{cm}	kA	187
400/415 V 50/60 Hz	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	I _c	kA	17

Rated short-circuit breaking capacity I_{cn}

I _{cu} to IEC/EN 60947 test cycle O-t-CO	I _{cu}	kA	
240 V 50/60 Hz	I _{cu}	kA	85
400/415 V 50 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
I _{cs} to IEC/EN 60947 test cycle O-t-CO-t-CO	I _{cs}	kA	
230 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
Lifespan, mechanical	Operations		20000
Max. operating frequency		Ops/h	120

Lifespan, electrical

400 V 50/60 Hz	Operations		10000
415 V 50/60 Hz	Operations		10000
690 V 50/60 Hz	Operations		7500
		ms	< 10

Terminal capacity IEC

Standard equipment			Box terminal
Optional accessories			Screw connection Tunnel terminal connection on rear
Copper conductors and cables			
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 mm ² 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 (25 - 70) ³⁾ 2 x 25
			³⁾ Up to 95 mm ² can be connected depending on the cable manufacturer.
Al conductors, Al cable			
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 (10 - 16)
Stranded		mm ²	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)	mm		
Bolt terminal and rear-side connection			
Screw connection			M6
Direct on the switch			
	min.	mm	12 x 5
	max.	mm	16 x 5

NA terminal capacity

Copper conductors and cables			
Box terminal			
solid		AWG	1 x (12 - 6)
Stranded		AWG/ kcmil	1 x (4 - 2/0)
Tunnel terminal			
solid		AWG	1 x 6
Stranded		AWG	
1-hole		AWG/ kcmil	1 x (4 - 3/0)
Bolt terminal and rear-side connection			
Direct on the switch			
solid		AWG	1 x (12 - 6) 2 x (9 - 6)
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)	mm		
Bolt terminal and rear-side connection			
Screw connection			M6
Direct on the switch			
	min.	mm	12 x 5
	max.	mm	16 x 5

Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	I _n	A	100
Equipment heat dissipation, current-dependent	P _{vid}	W	16.86

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

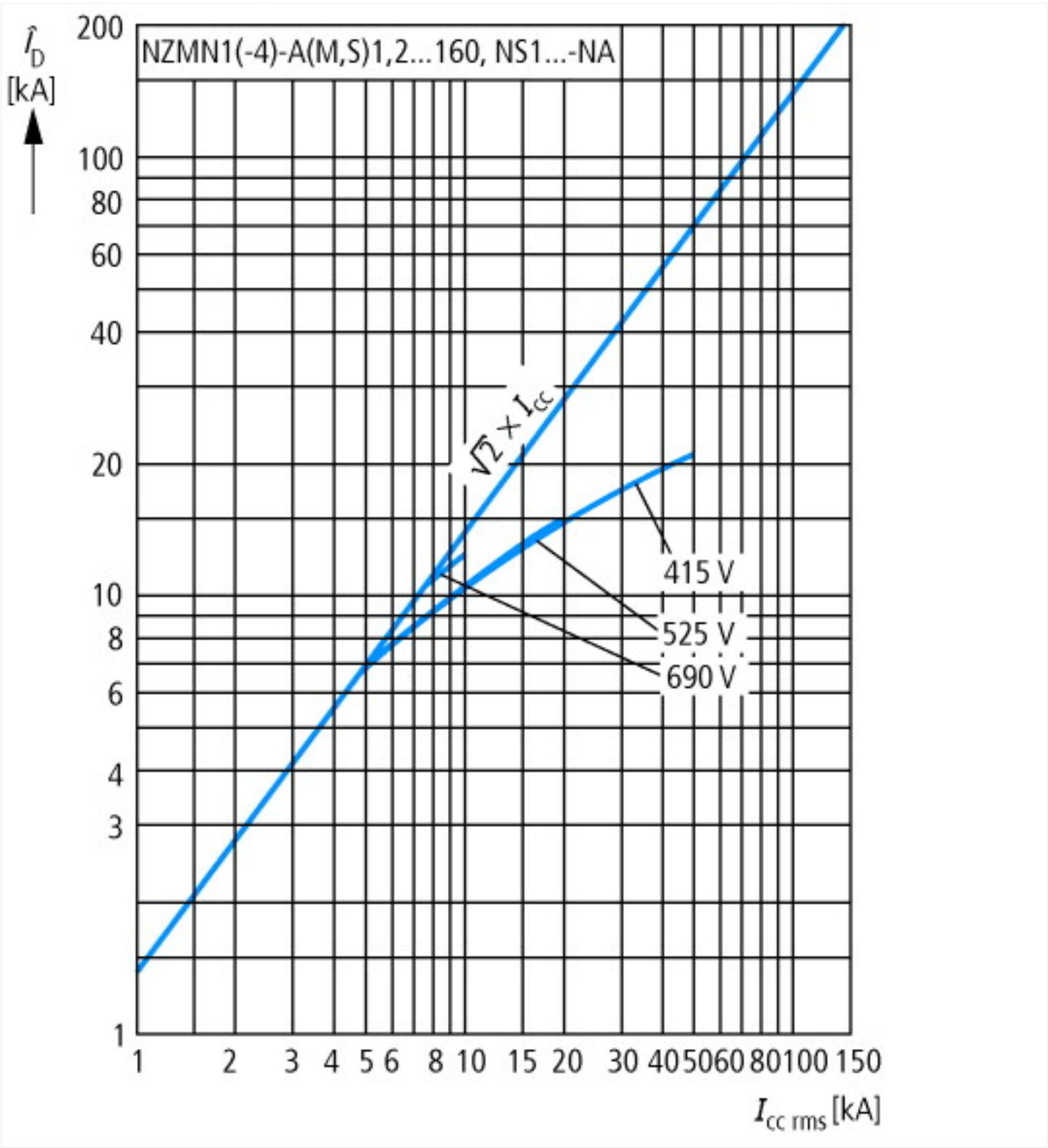
Low-voltage industrial components (EG000017) / Power circuit-breaker for trafo/generator/installation protection (EC000228)		
Electric engineering, automation, process control engineering / Low-voltage switch technology / Circuit breaker (LV < 1 kV) / Circuit breaker for power transformer, generator and system protection (ecl@ss10.0.1-27-37-04-09 [AJZ716013])		
Rated permanent current I _u	A	100
Rated voltage	V	690 - 690
Rated short-circuit breaking capacity I _{cu} at 400 V, 50 Hz	kA	50
Overload release current setting	A	0 - 0
Adjustment range short-term delayed short-circuit release	A	0 - 0
Adjustment range undelayed short-circuit release	A	1250 - 1250
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		No

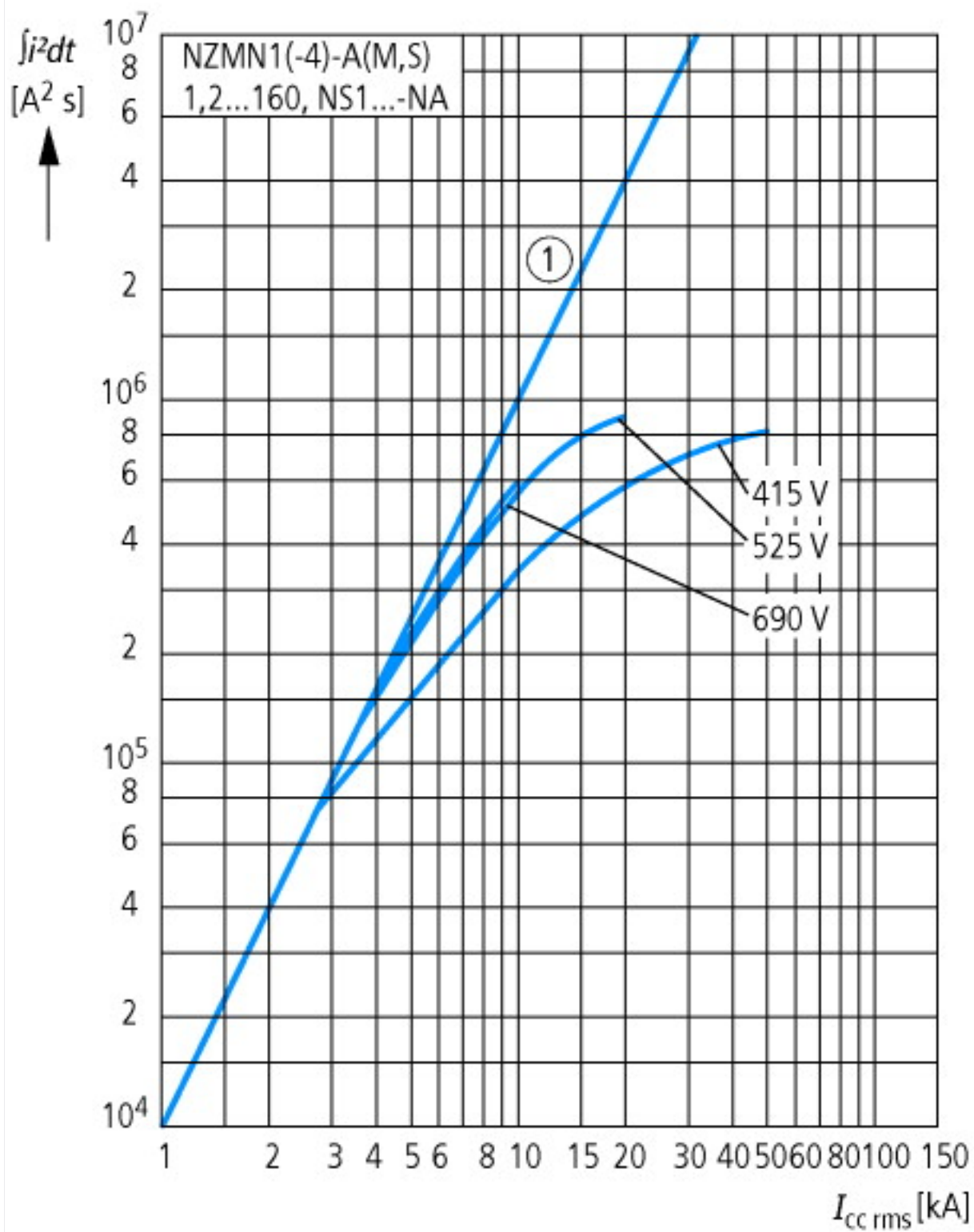
Degree of protection (IP)			IP20
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Approvals

Product Standards			UL 489; CSA-C22.2 No. 5-09; IEC 60947-2; CE marking
UL File No.			E148671
UL Category Control No.			WJAZ
CSA File No.			022086
CSA Class No.			4652-06
North America Certification			UL listed, CSA certified
Specially designed for North America			Yes
Suitable for			Feeder circuits, branch circuits
Current Limiting Circuit-Breaker			No
Max. Voltage Rating			480Y/277 V
Degree of Protection			IEC: IP20; UL/CSA Type: -

Characteristics

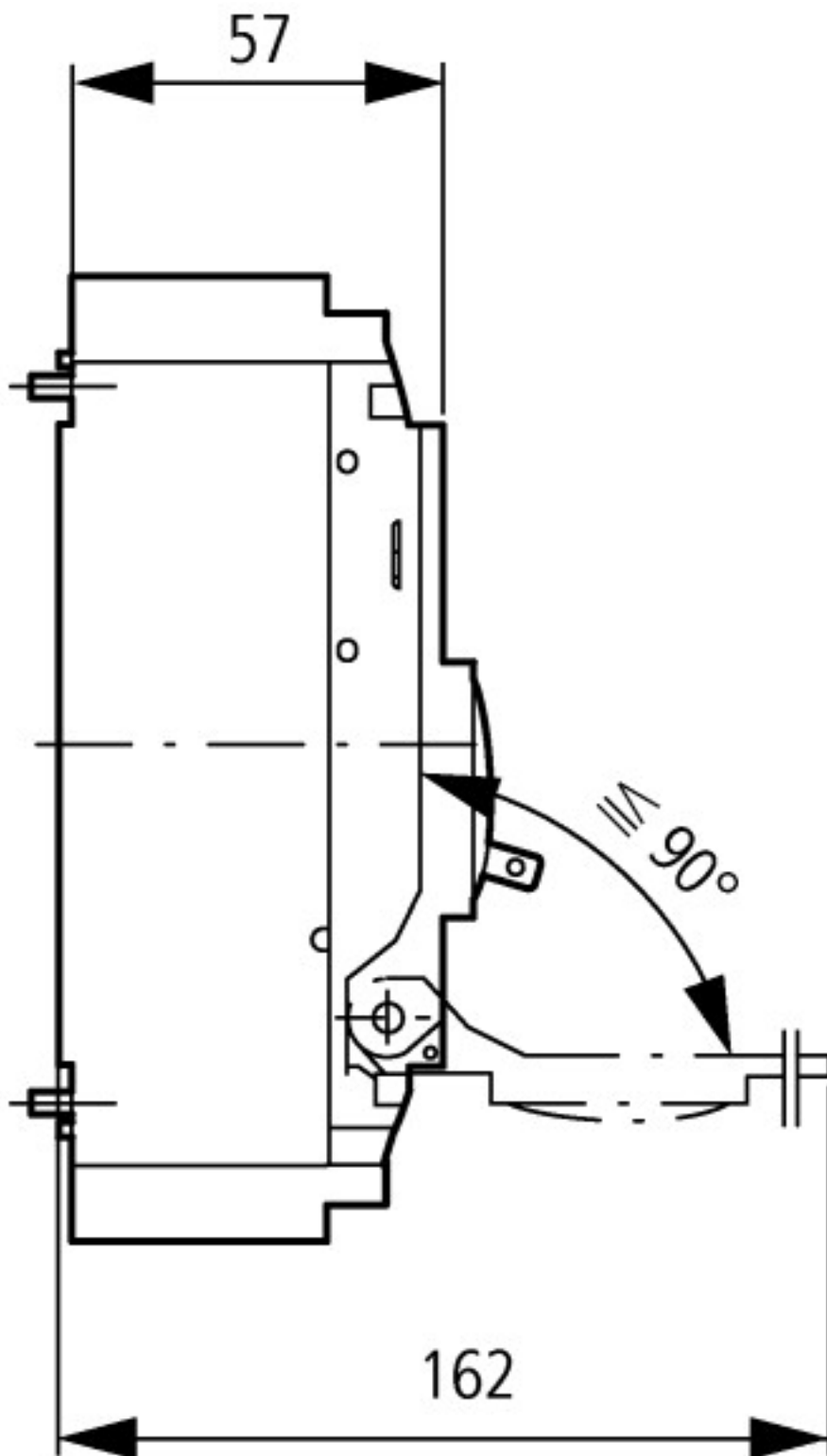




Dimensions



① Blow out area, minimum clearance to adjacent parts



Additional product information (links)

IL01203004Z (AWA1230-1913) Circuit-breaker, Switch-Disconnecter

IL01203004Z (AWA1230-1913) Circuit-breaker, Switch-Disconnecter	ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL01203004Z2015_11.pdf
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
CurveSelect characteristics program	http://www.eaton.eu/DE/Europe/Electrical/CustomerSupport/ConfigurationTools/CharacteristicsProgram/index.htm
Eaton configurator	http://www.eaton.eu/DE/Europe/Electrical/CustomerSupport/ConfigurationTools/ConfiguratorCircuitBreaker/index.htm
additional technical information for NZM power switch	ftp://ftp.moeller.net/DOCUMENTATION/PDF/nzm_techinc_de_en.pdf