DATASHEET - NZMN1-S40-CNA



Circuit-breaker, 3p, 40A

Part no. NZMN1-S40-CNA Catalog No. 281276



Similar to illustration

Delivery program			
Product range			Circuit-breaker
Protective function			Short-circuit protection
Standard/Approval			UL/CSA, IEC
Installation type			Fixed
Release system			Thermomagnetic release
Description			Switches conform to UL/CSA as well as the IEC regulations. IEC switching performance values are contained on the rating plate. Motor protection in conjunction with contactor and overload relay With short-circuit release Without overload release Ir
Number of poles			3 pole
Standard equipment			Box terminal
Rated current = rated uninterrupted current	$I_n = I_u$	Α	40

Setting range

Short-circuit releases



Non-delayed



 $I_i = I_n x ...$ 8 - 14

Technical data

General

Standards Protection against direct contact Climatic proofing Ambient temperature Ambient temperature, storage	°C	Finger and back of hand proof to VDE 0106 Part 100 Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30
Climatic proofing Ambient temperature	°C	Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30
Ambient temperature	°C	Damp heat, cyclic, to IEC 60068-2-30
	°C	40 . 70
Ambient temperature, storage	°C	40 . 70
		- 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		
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, 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		

The parameter dependency, personage The parameter dependency, personage The parameter dependency, personage The parameter dependency, personage The parameter dependency Th				Later of the IDDO (In the Internal Control Control
Terminations				
### Part	Enclosures			
Description of the field single planes Content Con	Terminations			Tunnel terminal: IP10
				Phase isolator and strip terminal: IP00
Manicardana	Other technical data (sheet catalogue)			Temperature dependency, Derating
Manifering controlled	Circuit-breakers			
Autoliany contacks	Rated surge voltage invariability	U_{imp}		
Name of contractional wintings Over-contage category/pullishon degree Use in unasanthed saupply systems Vote to unasanthed saupply sys	Main contacts		V	6000
Overlating category/pollution degree UI V 68 Flate of mulation voltage UI V 98 Solic of mulation voltage systems V 99 Solic of mulation capacity V 99 Mand datast contributions, capacity Image: No. 10 No. 10 400 V 50 PM V Image: No. 10 No. 10 400 V 50 PM V Image: No. 10 No. 10 800 V 50 PM V Image: No. 10 No. 10 800 V 50 PM V Image: No. 10 No. 10 800 V 50 PM V Image: No. 10 No. 10 No. 10 800 V 50 PM V Image: No. 10 No. 10 No. 10 800 V 50 PM V Image: No. 10 No. 10 No. 10 800 V 50 PM V Image: No. 10 No. 10 No. 10 800 V 50 PM V Image: No. 10 No. 10 No. 10 800 V 50 PM V Image: No. 10 No. 10 No. 10 800 V 50 PM V Image: No. 10 No. 10 No. 10 800 V 50 PM V Image: No. 10 No. 10 No. 10	Auxiliary contacts		V	6000
Nes in unautafon voltage Nes in unautafon	Rated operational voltage	U _e	V AC	690
Variable	Overvoltage category/pollution degree			III/3
Switching capacity Image: Transmit and properties of the prope	Rated insulation voltage	Ui	V	690
Name	Use in unearthed supply systems		٧	≦ 690
1	Switching capacity			
Many Nation Natio	Rated short-circuit making capacity	I _{cm}		
Man	240 V	I _{cm}	kA	187
See See See See See See See See See Se	400/415 V	I _{cm}	kA	105
Related absorber forcing the breaking capacity con	440 V 50/60 Hz	I _{cm}	kA	74
	525 V 50/60 Hz	I _{cm}	kA	40
Total to IEC/EN 69847 test cycle 0-t-CO	690 V 50/60 H	Ic	kA	17
240 V 50/60 Hz	Rated short-circuit breaking capacity I _{cn}	I _{cn}		
400/415 V 50/60 Hz	Icu to IEC/EN 60947 test cycle 0-t-C0	lcu	kA	
A40 V 50/60 Hz	240 V 50/60 Hz	Icu	kA	85
	400/415 V 50/60 Hz	I _{cu}	kA	50
S25 V 50/60 Hz	440 V 50/60 Hz		kA	35
S89 V 50/60 Hz	525 V 50/60 Hz		kA	20
Ics to IEC/EN 60947 test cycle 0-E-C0-E-C0				
Les KA 85				
400/415 V 50/60 Hz 440 V 50/60 Hz 1cs kA 5525 V 50/60 Hz 1cs kA 10 690 V 50/60 Hz 1cs kA 7.5 Maximum low-voltage h.b.c. fuse Lifespan, mechanical(of which max. 50 % trip by shunt/undervoltage release) Lifespan, electrical AC-3 400 V 50/60 Hz 4				25
440 V 50/60 Hz 1cs kA 10 525 V 50/60 Hz 1cs kA 7.5 Maximum low-voltage h.b.c. fuse Maximum low-voltage in b.c. fuse in b.c. fuse Maximum low-voltage in b.c. fuse in b.c. fuse Maximum low-voltage in b.c. fuse Maxim				
Section Sect				
Second Solid Nation				
Maximum low-voltage h.b.c. fuse A gG/gL A gG/gL A gG/gL				
Utilization category to IEC/EN 60947-2 Lifespan, mechanical(of which max. 50 % trip by shunt/undervoltage release) Lifespan, electrical AC3 400 V 50/60 Hz 0 perations 690 V 50/60 Hz 0 perations Max. operating frequency Total break time at short-circuit Terminal capacity Standard equipment Box terminal Solid Stranded Tunnel terminal Tunnel terminal		I _{cs}		
Utilization category to IEC/EN 60947-2 Lifespan, mechanical(of which max. 50 % trip by shunt/undervoltage release) AC-3 400 V 50/60 Hz 400 V 50/60 Hz 690	Maximum low-voltage h.b.c. fuse		A gG/gL	Maximum back-up fuse, if the expected short-circuit currents at the installation
Lifespan, mechanical (of which max. 50 % trip by shunt/undervoltage release) AC3 400 V 50/50 Hz 415 V 50/50 Hz 690 V 50/50 Hz Operations Opera	Helication and account IEO/EN 20047 0			
Lifespan, electrical AC3 400 V 50/60 Hz Operations 7500 415 V 50/60 Hz Operations 7500 690 V 50/60 Hz Operations 5000 Max. operating frequency Ops/h 120 Total break time at short-circuit ms < 10		Oncretic		
AC3 400 V 50/60 Hz Operations 7500 A15 V 50/60 Hz Operations 690 V 50/60 Hz Operations Operati		operations		20000
400 V 50/60 Hz				
A15 V 50/60 Hz		0		7500
690 V 50/60 Hz Max. operating frequency Total break time at short-circuit Terminal capacity Standard equipment Box terminal Solid Stranded Stranded Tunnel terminal				
Max. operating frequency Total break time at short-circuit ms < 10 Terminal capacity Standard equipment Round copper conductor Box terminal Solid mm² 1 x (12 6) Stranded mm² 1 x (25 - 70) 2 x 25 Tunnel terminal				
Total break time at short-circuit ms < 10 Terminal capacity Standard equipment Box terminal Box terminal Solid mm² 1 x (12 6) Stranded mm² 1 x (25 - 70) 2 x 25 Tunnel terminal		Operacions	One/h	
Terminal capacity Standard equipment Round copper conductor Box terminal Solid mm² 1 x (12 6) mm² 1 x (25 - 70) 2 x 25 Tunnel terminal				
Standard equipment Round copper conductor Box terminal Solid mm² 1 x (12 6) mm² 1 x (25 - 70) 2 x 25 Tunnel terminal			1115	₹ 10
Box terminal mm² 1 x (12 6) Solid mm² 1 x (25 - 70) Stranded mm² 1 x (25 - 70) Tunnel terminal Tunnel terminal				Box terminal
Box terminal mm² 1 x (12 6) Solid mm² 1 x (25 - 70) Stranded mm² 1 x (25 - 70) Tunnel terminal Tunnel terminal	Round copper conductor			
Solid mm² 1 x (12 6) Stranded mm² 1 x (25 - 70) 2 x 25 Tunnel terminal mm² 1 x (25 - 70) 2 x 25				
Stranded mm ² 1 x (25 - 70) 2 x 25 Tunnel terminal			mm ²	1 x (12 6)
Tunnel terminal 2 x 25				
			mm [*]	
Solia mm² 1 x (16 - 95)			0	4/40. 05)
	Solid		mm ²	I X (10 - 95)

Tunnel terminal Solid Solid Lu 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 Screw connection Direct on the switch min. min. mm 12 x 5 max. mm 16 x 5 Control cables mm² 1 x 18 14)				
Bolt terminal and rear-side connection	Stranded			
Direct on the switch Solid mm² 1 x (12 6) 2 x (9 6) mm² 1 x (12 6) 2 x (9 6) mm² 1 x (4 2/0) mm² 1 x (6 2/0) mm²	Stranded		mm^2	1 x (4 3/0)
No. No.	Bolt terminal and rear-side connection			
Stranded	Direct on the switch			
Al conductors, Cu cable Tunnel terminal Solid Cu strip (number of segments x width x segment thickness) Box terminal min. mm 2x9x0.8 Copper busbar (width x thickness) Bolt terminal and rear-side connection Screw connection Screw connection Direct on the switch min. mm 12x5 max. mm 16x5 Control cables mm2 1 x (18 14)	Solid		mm ²	
Tunnel terminal Solid Solid Lu 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 Screw connection Direct on the switch min. min. mm 12 x 5 max. mm 16 x 5 Control cables mm² 1 x 18 14)	Stranded		mm^2	1 x (4 2/0)
Solid Cu strip (number of segments x width x segment thickness) Box terminal min. mm 2x9x0x8 Copper busbar (width x thickness) Bolt terminal and rear-side connection Screw connection Direct on the switch min. mm 12x5 max. mm 16x5 Control cables mm² 1x16	Al conductors, Cu cable			
Cu strip (number of segments x width x segment thickness) Box terminal min. mm 2x9x0.8 max. mm 9x9x0.8 Copper busbar (width x thickness) Bolt terminal and rear-side connection Screw connection Screw connection Direct on the switch min. mm 12x5 max. mm 16x5 Control cables mm² 1x (18 14)	Tunnel terminal			
Box terminal Imax	Solid		mm^2	1 x 16
min. mm 2 x 9 x 0.8 max. mm 9 x 9 x 0.8 Copper busbar (width x thickness) mm Fig. mm mm mm mm mm mm mm	Cu strip (number of segments x width x segment thickness)			
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 Control cables mm² 1 x (18 14)	Box terminal			
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 Control cables mm2 1 x (18 14)		min.	mm	2 x 9 x 0.8
Bolt terminal and rear-side connection Screw connection Direct on the switch min. mm 12 x 5 max. mm 16 x 5 Control cables mm² 1 x (18 14)		max.	mm	9×9×0.8
Screw connection M8 Direct on the switch min. mm 12 x 5 max. mm 16 x 5 Control cables mm² 1 x (18 14)	Copper busbar (width x thickness)	mm		
Direct on the switch min. mm 12 x 5 max. mm 16 x 5 Control cables mm² 1 x (18 14)	Bolt terminal and rear-side connection			
min. mm 12 x 5 max. mm 16 x 5 Control cables mm² 1 x (18 14)	Screw connection			M8
max. mm 16 x 5 Control cables	Direct on the switch			
Control cables mm ² 1 x (18 14)		min.	mm	12 x 5
mm ² 1 x (18 14)		max.	mm	16 x 5
	Control cables			
			mm ²	1 x (18 14) 2 x (18 16)

Design verification as per IEC/EN 61439

Design vermeation as per 120/214 01-03			
Technical data for design verification			
Rated operational current for specified heat dissipation	In	Α	40
Equipment heat dissipation, current-dependent	P _{vid}	W	2.7
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.

Technical data ETIM 7.0

Low-voltage i	industrial components (EG000017) / Mo	tor protection circuit-breaker (EC000074)	

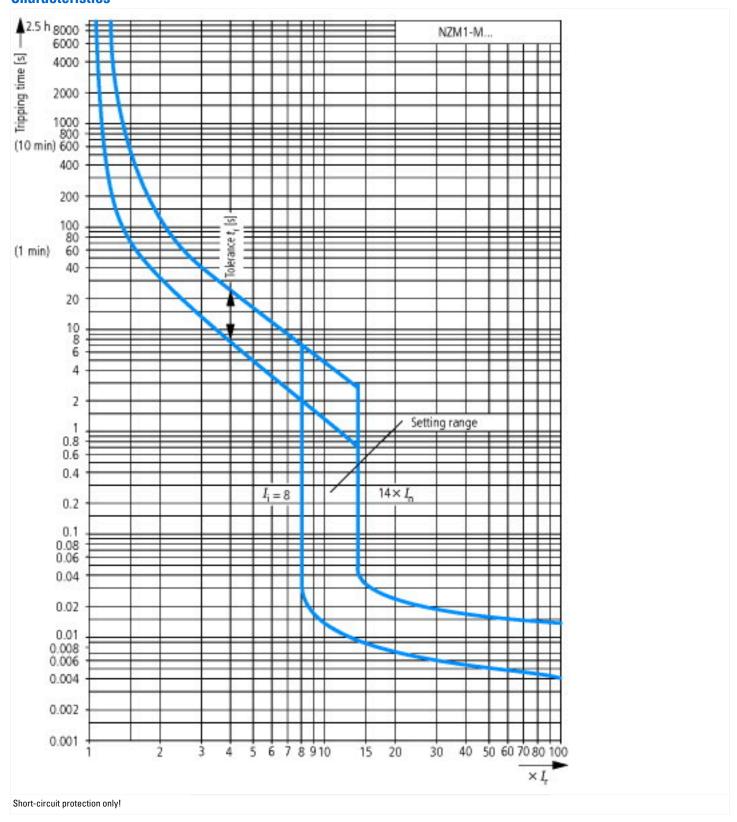
Electric engineering, automation, process control engineering / Low-voltage switch technology / Circuit breaker (LV < 1 kV) / Motor protection circuit-breaker (ecl@ss10.0.1-27-37-04-01 [AG7529016])

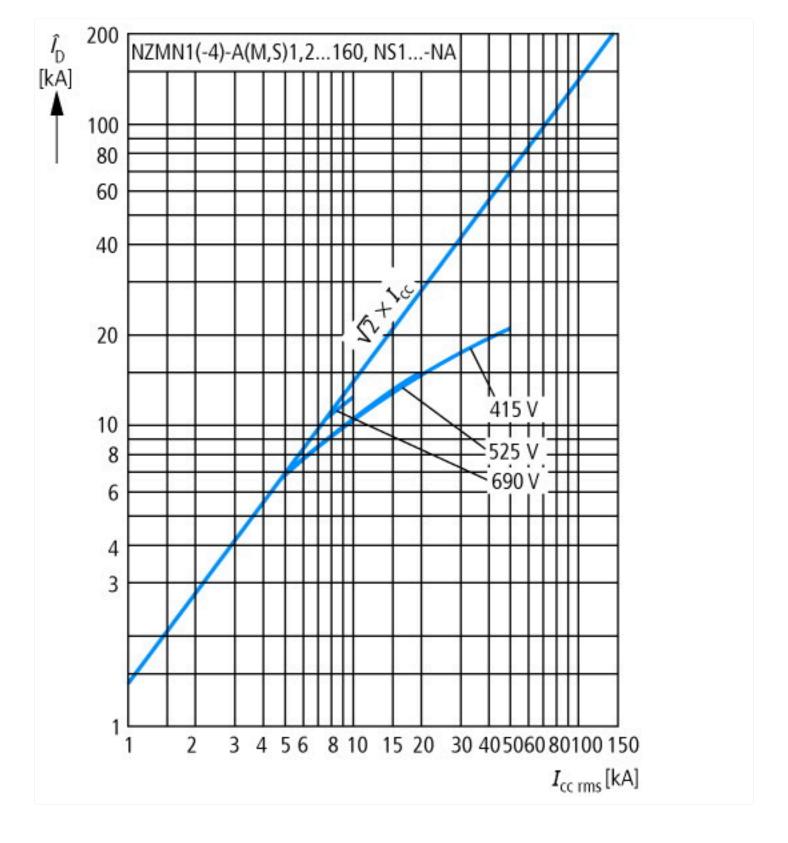
[AGZ529016])	e switch technology /	On Cuit bit	eaker (LV < 1 kV)/ Mictor protection circult-breaker (ecression.c.1-21-37-04-01
Overload release current setting		Α	0 - 0
Adjustment range undelayed short-circuit release		Α	8 - 14
With thermal protection			No
Phase failure sensitive			No
Switch off technique			Magnetic
Rated operating voltage		V	690 - 690
Rated permanent current lu		Α	40
Rated operation power at AC-3, 230 V		kW	11
Rated operation power at AC-3, 400 V		kW	18.5
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	165.5
Width		mm	90
Depth		mm	88

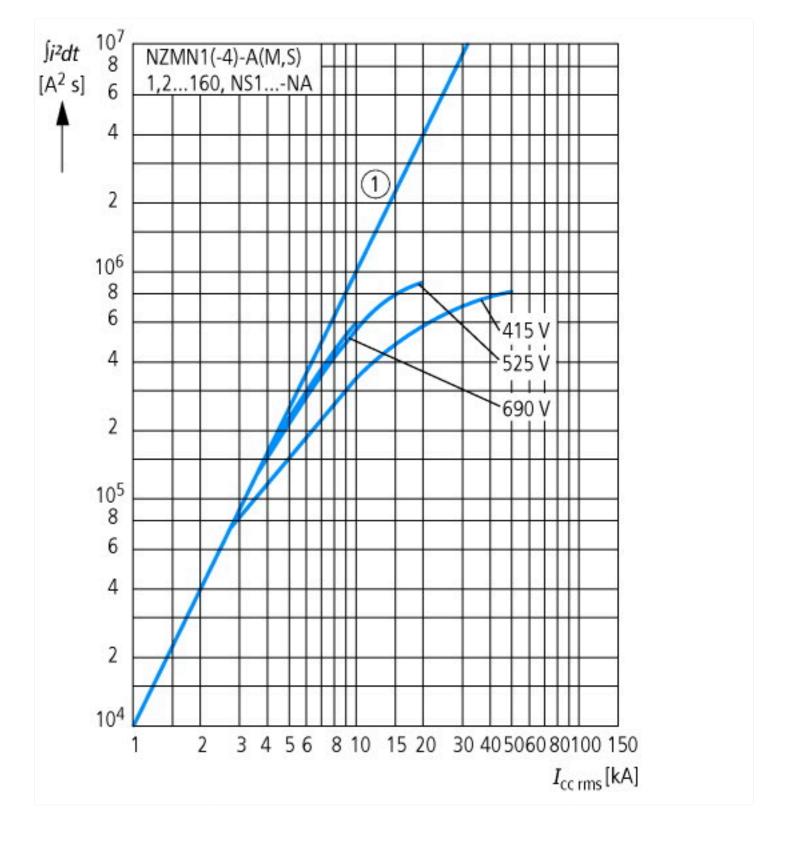
Approvals

Whhinkais	
Product Standards	UL 489; CSA-C22.2 No. 5-09; IEC 60947-2; CE marking
UL File No.	E31593
UL Category Control No.	DKPU2
CSA File No.	022086
CSA Class No.	1432-01
North America Certification	UL recognized, CSA certified
Conditions of Acceptability	Only used in motor circuits in conjunction with suitable contactor and overload relay. SCCR value applies for complete combination starter only, consisting of instantaneous trip circuit breaker, contactor and overload relay.
Specially designed for North America	Yes
Suitable for	Branch circuits, feeder circuits
Current Limiting Circuit-Breaker	No
Max. Voltage Rating	480Y/277 V
Degree of Protection	IEC: IP20; UL/CSA Type: -

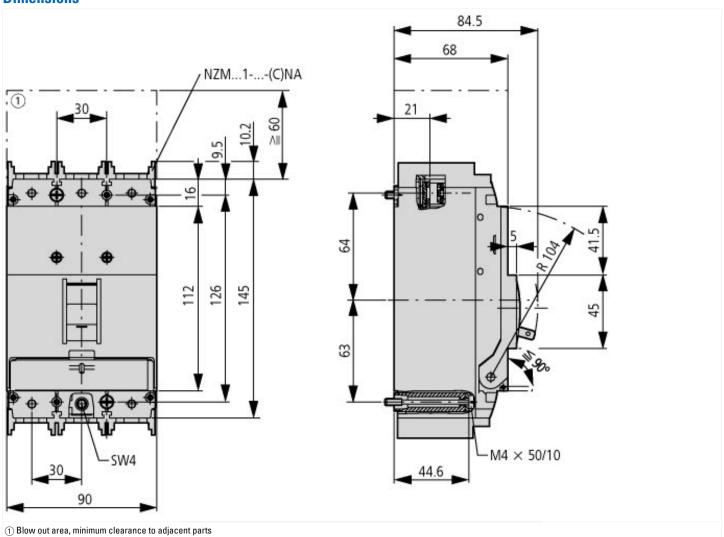
Characteristics

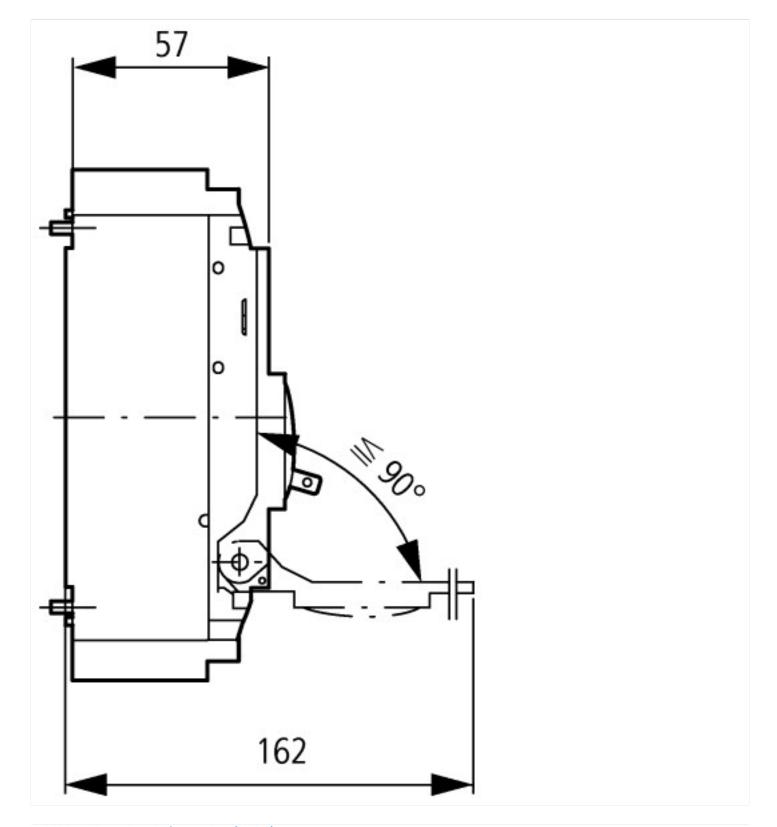






Dimensions





Additional product information (links)

	- 1	
IL01203004Z (AWA1230-1913) Circuit-breaker, Switch-Disconnector		
IL01203004Z (AWA1230-1913) Circuit-breaker, Switch-Disconnector	https://es-assets.eaton.com/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	
additional technical information for NZM power switch	https://es-assets.eaton.com/DOCUMENTATION/PDF/nzm_technic_de_en.pdf	