



Circuit-breaker, 3p, 100A, plug-in module

Part no.
Catalog No.NZMB1-M100-SVE
112723

Powering Business Worldwide™

Similar to illustration

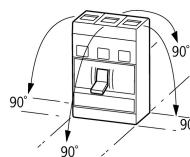
Delivery program

Product range	Circuit-breaker		
Protective function	Motor protection		
Standard/Approval	IEC		
Installation type	Plug-in units		
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 circuit-breaker fulfills all requirements for AC-3 switching category.		
Number of poles	3 pole		
Standard equipment	Box terminal		
Switching capacity			
400/415 V 50 Hz	I_{cu}	kA	25
Rated current = rated uninterrupted current	$I_n = I_u$	A	100
Setting range			
Overload trip		I_r	A 80 - 100
Short-circuit releases			
Non-delayed		$I_i = I_n \times \dots$	8 - 12.5
Motor rating AC-3 50/60 Hz			
380 V 400 V	P	kW	45
Motor rating AC-3 50/60 Hz			
400 V	P	kW	45
Rated operational current AC-3 50/60 Hz			
400 V	I_e	A	81

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 
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	$I_n = I_u$	A	100
Rated surge voltage invariability	U_{imp}		
Main contacts		V	6000
Auxiliary contacts		V	6000
Rated operational voltage	U_e	V AC	440
Overvoltage category/pollution degree			III/3
Rated insulation voltage	U_i	V	690
Use in unearthing supply systems		V	≤ 440

Switching capacity

Rated short-circuit making capacity	I_{cm}		
240 V	I_{cm}	kA	63
400/415 V	I_{cm}	kA	53
440 V 50/60 Hz	I_{cm}	kA	53
Rated short-circuit breaking capacity I_{cn}	I_{cn}		
I _{cu} to IEC/EN 60947 test cycle 0-t-CO	I_{cu}	kA	
240 V 50/60 Hz	I_{cu}	kA	30
400/415 V 50/60 Hz	I_{cu}	kA	25
440 V 50/60 Hz	I_{cu}	kA	25
I _{cs} to IEC/EN 60947 test cycle 0-t-CO-t-CO	I_{cs}	kA	
240 V 50/60 Hz	I_{cs}	kA	30
400/415 V 50/60 Hz	I_{cs}	kA	25
440 V 50/60 Hz	I_{cs}	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		A	
Lifespan, mechanical (of which max. 50 % trip by shunt/undervoltage release)	Operations	20000	
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 downtime in a short-circuit	ms	< 10	
Terminal capacity			
Standard equipment		Box terminal	
Accessories required		NZM1-XSVS	
Optional accessories		Screw connection 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 (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	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 mm ² can be connected depending on the cable manufacturer.	
Al circular conductor			
Tunnel terminal			
Solid	mm ²	1 x 16	
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)	
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
Control 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 design verification			
Rated operational current for specified heat dissipation	I _n	A	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.

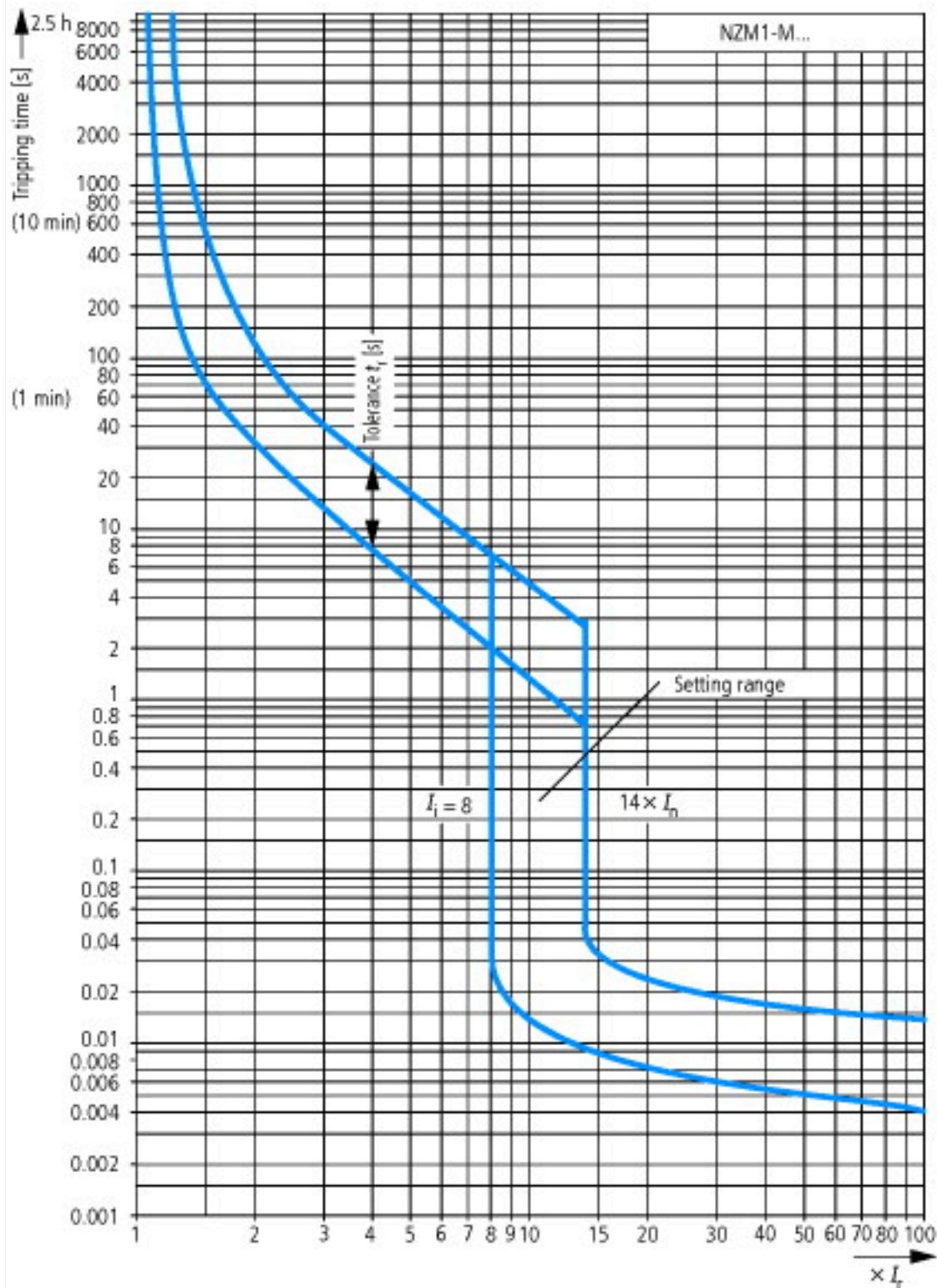
Technical data ETIM 7.0

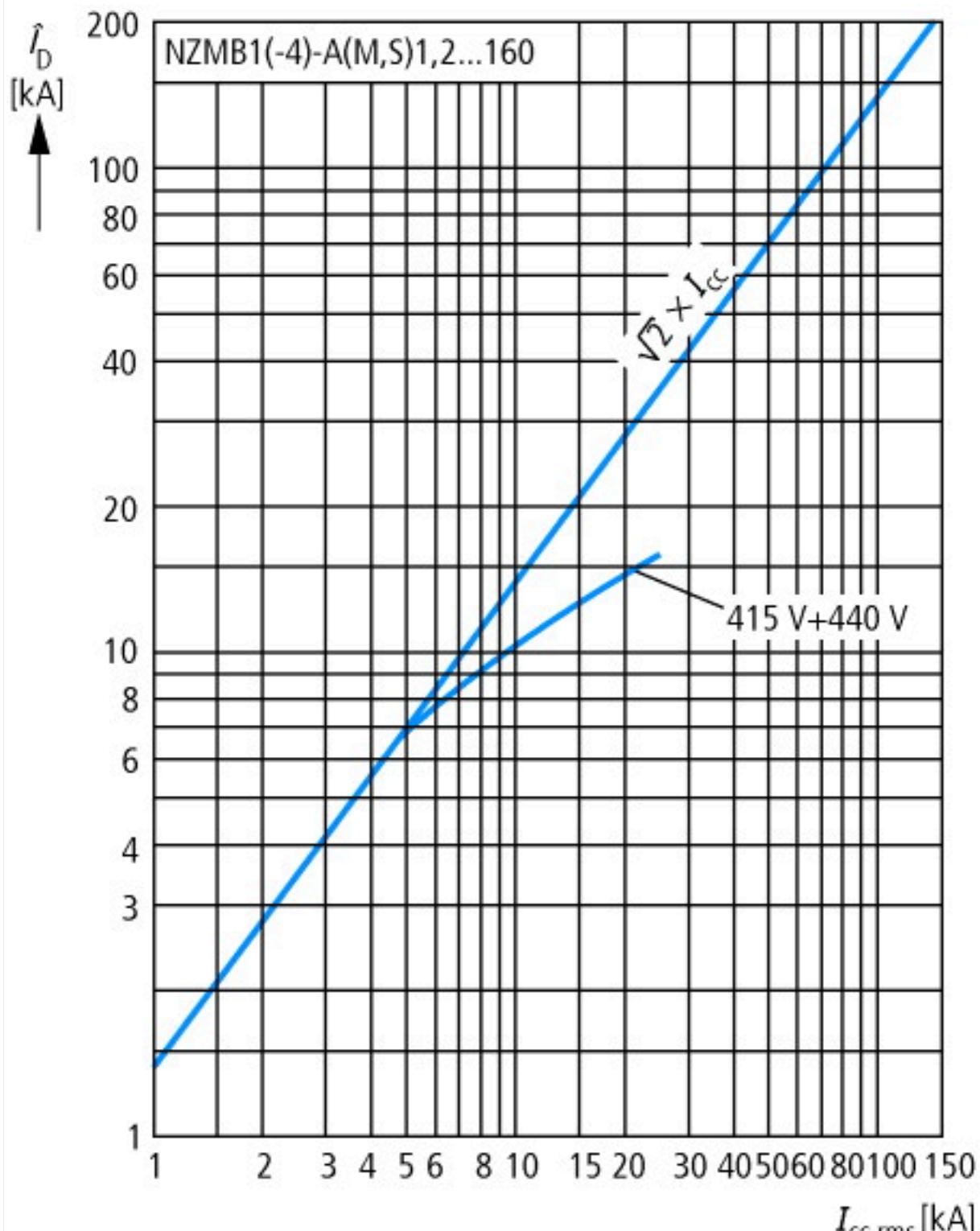
Low-voltage industrial components (EG000017) / Motor protection circuit-breaker (EC000074)

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])

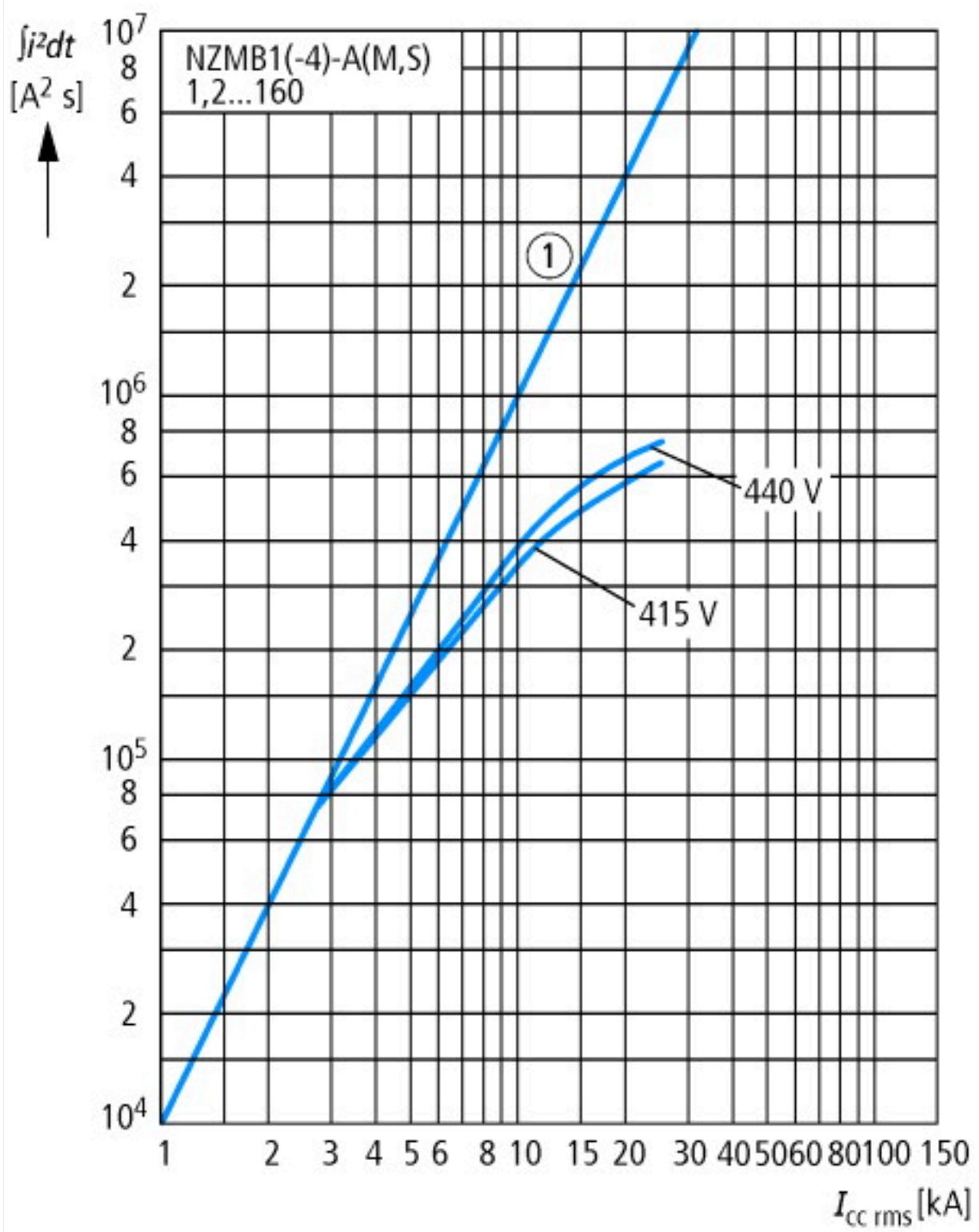
Overload release current setting	A	80 - 100
Adjustment range undelayed short-circuit release	A	800 - 1250
With thermal protection		Yes
Phase failure sensitive		Yes
Switch off technique		Thermomagnetic
Rated operating voltage	V	440 - 440
Rated permanent current I_{u}	A	100
Rated operation power at AC-3, 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 plug-in technique
With integrated auxiliary switch		No
With integrated under voltage release		No
Number of poles		3
Rated short-circuit breaking capacity I_{cu} at 400 V, AC	kA	25
Degree of protection (IP)		IP20
Height	mm	201
Width	mm	95
Depth	mm	90

Characteristics



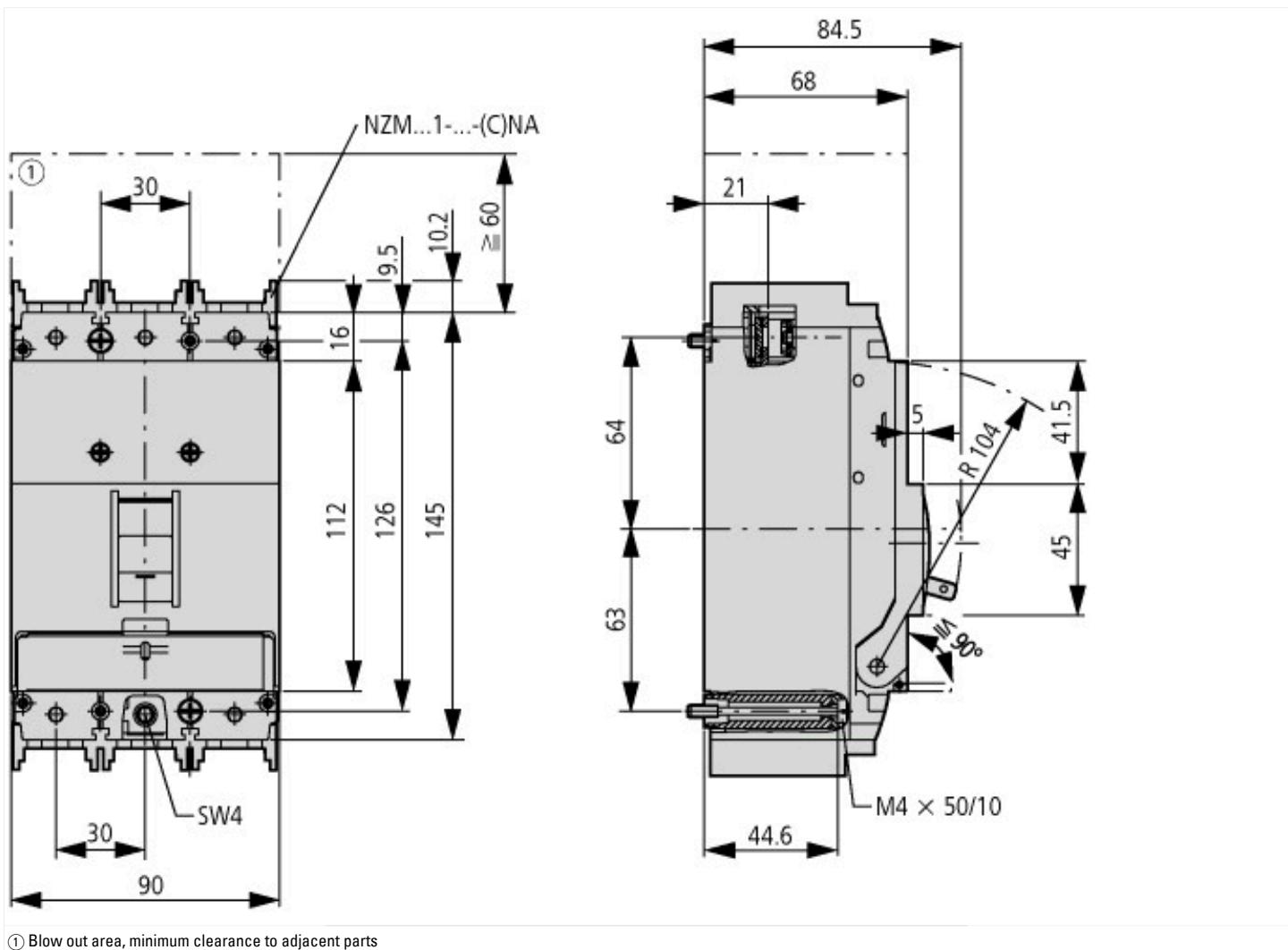


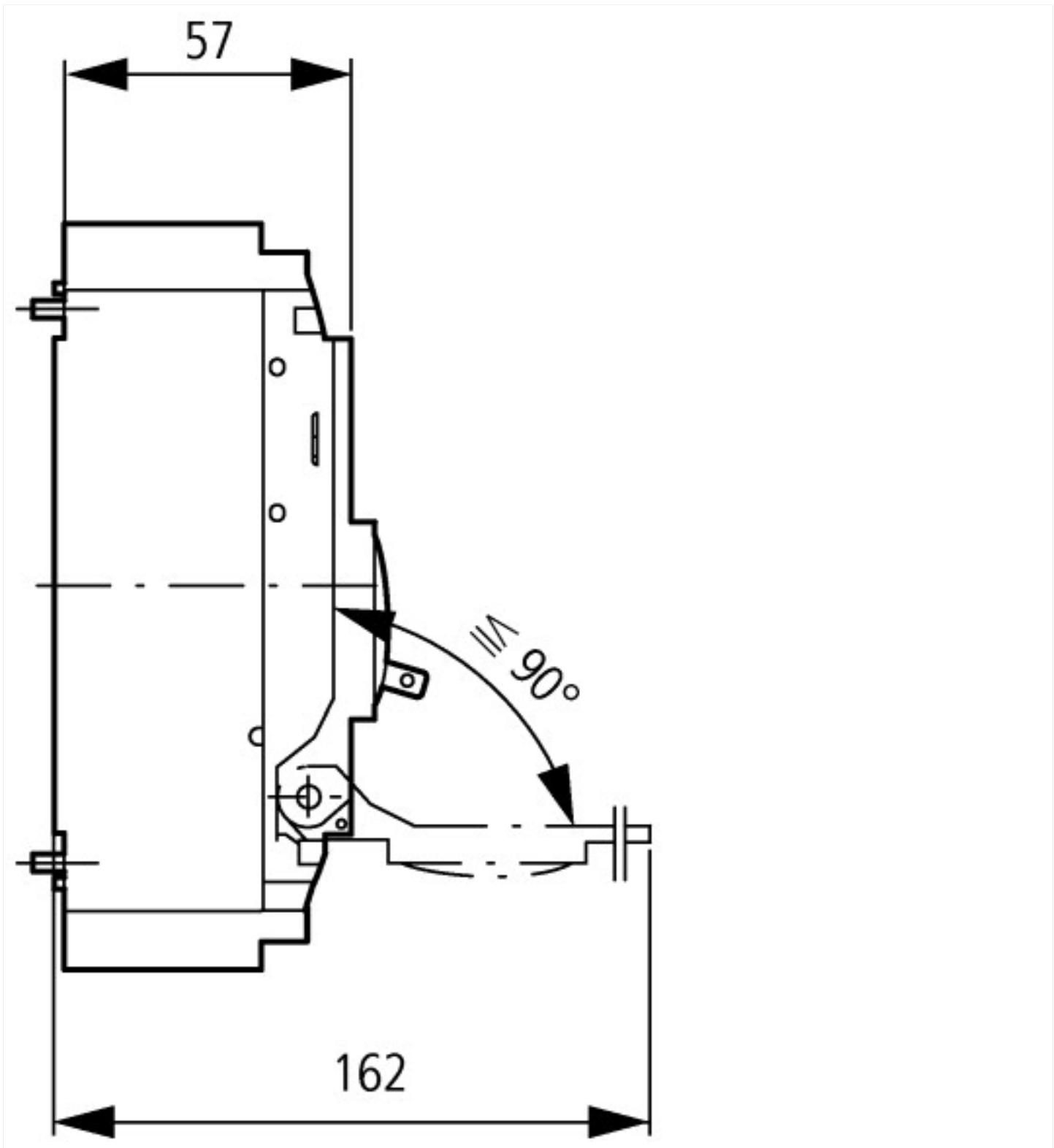
Let-through current

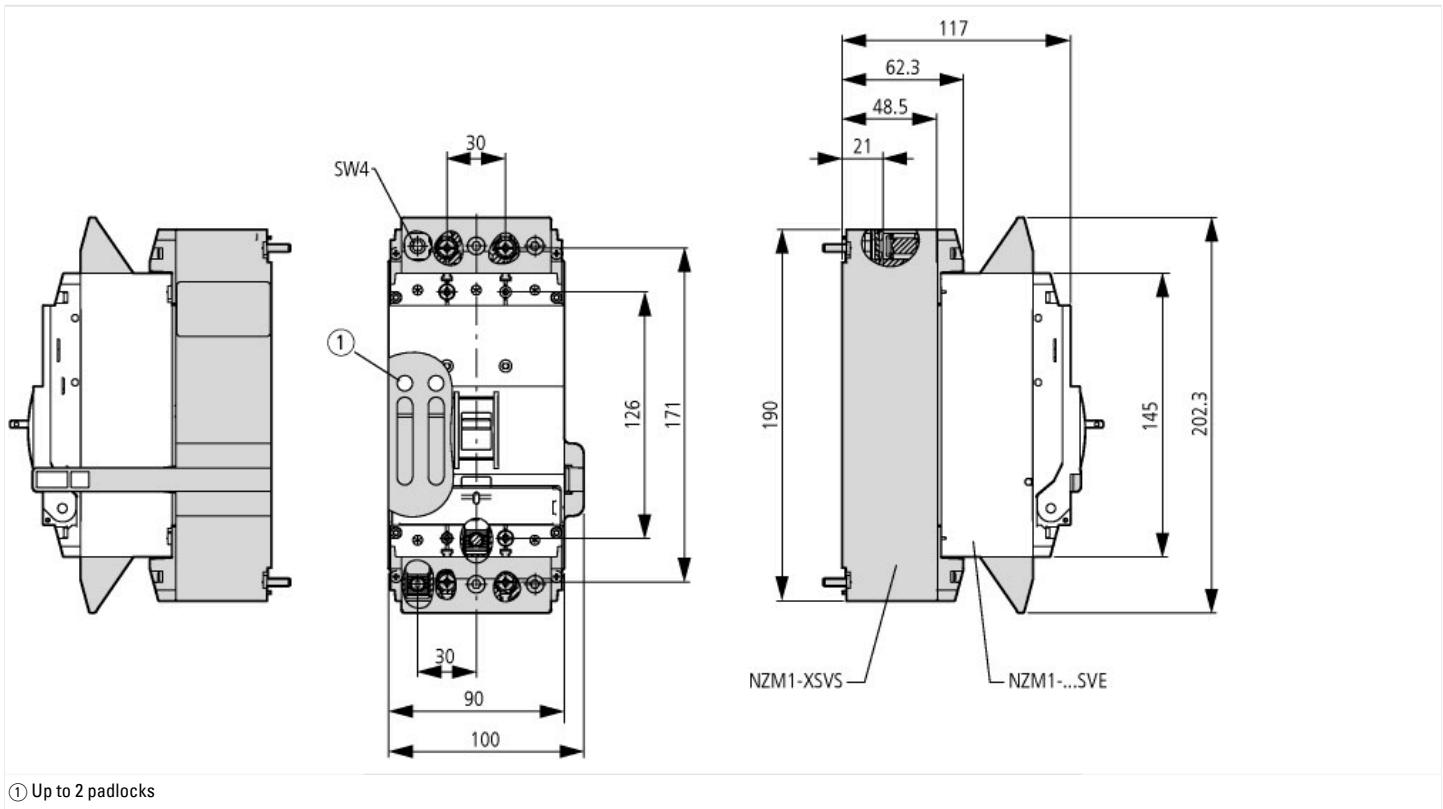


Let-through energy

Dimensions







① Up to 2 padlocks

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

IL01219023Z (AWA1230-2052) Plug-in adapter

IL01219023Z (AWA1230-2052) Plug-in adapter ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL01219023Z2016_02.pdf

Temperature dependency, Derating <http://ecat.moeller.net/flip-cat/?edition=HPLEN&startpage=17.172>

additional technical information for NZM power switch ftp://ftp.moeller.net/DOCUMENTATION/PDF/nzm_technic_de_en.pdf