DATASHEET - NZMN2-A200-SVE



Circuit-breaker, 3p, 200A, plug-in module

Part no. NZMN2-A200-SVE Catalog No. 113245

EL-Nummer (Norway)

0004357014



Similar to illustration

Delivery program			
Product range			Circuit-breaker
Protective function			System and cable protection
Standard/Approval			IEC
Installation type			Plug-in units
Release system			Thermomagnetic release
Construction size			NZM2
Number of poles			3 pole
Standard equipment			Screw connection
Switching capacity			
400/415 V 50 Hz	I _{cu}	kA	50
Rated current = rated uninterrupted current			
Rated current = rated uninterrupted current	$\mathbf{I}_n = \mathbf{I}_u$	Α	200
Setting range			
Overload trip			
中	I _r	A	160 - 200
Short-circuit releases			

Technical data

Non-delayed

1>

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
Weight	kg	2.345
Mounting position		Vertical and 90° in all directions

 $I_i = I_n \times \dots$

6 - 10



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 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

400 V 50/60 Hz

Rated current = rated uninterrupted current	$I_n = I_u$	Α	200
Rated surge voltage invariability	U_{imp}		
Main contacts		V	8000
Auxiliary contacts		V	6000
Rated operational voltage	U _e	V AC	690
Overvoltage category/pollution degree			III/3
Rated insulation voltage	Ui	V	1000
Use in unearthed supply systems		V	≦ 690

Switching capacity			
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	I _{cm}	kA	74
525 V 50/60 Hz	I _{cm}	kA	53
690 V 50/60 H	Ic	kA	40
Rated short-circuit breaking capacity I _{cn}	I _{cn}		
Icu to IEC/EN 60947 test cycle 0-t-C0	lcu	kA	
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	25
690 V 50/60 Hz	I _{cu}	kA	20
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	25
690 V 50/60 Hz	I _{cs}	kA	5
			Maximum back-up fuse, if the expected short-circuit currents at the installation location exceed the switching capacity of the circuit-breaker.
Rated short-time withstand current			
t = 0.3 s	I _{cw}	kA	1.9
t = 1 s	I _{cw}	kA	85
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			

Operations

10000

Standard equipment Screw connection Accessories required NZM2-XSVS Optional accessories Box terminal Tunnel terminal connection on rear Round copper conductor mm² 1 x (10 - 16) 2 x (6 - 16) Solid mm² 1 x (25 - 185) 2 x (25 - 70) Stranded mm² 1 x 16 Stranded mm² 1 x 16 Stranded mm² 1 x (25 - 185) Stranded mm² 1 x (25 - 185) Bolt terminal and rear-side connection mm² 1 x (25 - 185) Bolt terminal and rear-side connection mm² 1 x (10 - 16) 2 x (6 - 16) Solid mm² 1 x (10 - 16) 2 x (6 - 16) Stranded mm² 1 x (25 - 185) 2 x (25 - 70)	
AC3	
400 V 50/60 Hz	
A15 V 50/60 Hz	
Book	
Max. operating frequency Ops/h 120 Total break time at short-circuit ms < 10 Terminal capacity Standard equipment Screw connection Accessories required NZM2-XSVS Optional accessories Box terminal Tunnel terminal connection on rear Round copper conductor mm² Box terminal trunnel terminal connection on rear Solid mm² 1 x (10 - 16) 2 x (6 - 16) Stranded mm² 1 x (25 - 185) 2 x (25 - 70) Tunnel terminal mm² 1 x (16 - 16) 2 x (6 - 18) Stranded mm² 1 x (25 - 185) Bolt terminal and rear-side connection mm² 1 x (10 - 16) 2 x (6 - 16) Direct on the switch mm² 1 x (10 - 16) 2 x (6 - 16) Stranded mm² 1 x (25 - 185) 2 x (25 - 70)	
Total break time at short-circuit ms < 10 Terminal capacity Standard equipment X2M2-XSVS Accessories required NZM2-XSVS Optional accessories Box terminal Tunnel terminal connection on rear Round copper conductor Total present terminal and terminal connection on rear Solid mm² 1 x (10 - 16) 2 x (6 - 16) Stranded mm² 1 x (25 - 185) 2 x (25 - 70) Tunnel terminal mm² 1 x (25 - 185) Stranded mm² 1 x (25 - 185) Stranded mm² 1 x (25 - 185) Bolt terminal and rear-side connection mm² 1 x (25 - 185) Direct on the switch mm² 1 x (10 - 16) 2 x (6 - 16) Solid mm² 1 x (25 - 185) 2 x (6 - 16) Stranded mm² 1 x (25 - 185) 2 x (6 - 16) Total properties mm² 1 x (25 - 185) 2 x (6 - 16)	
Strandard equipment	
Standard equipment Screw connection Accessories required NZM2-XSVS Optional accessories Box terminal Tunnel terminal connection on rear Round copper conductor mm² 1 x (10 - 16) 2 x (6 - 16) Solid mm² 1 x (25 - 185) 2 x (25 - 70) Stranded mm² 1 x 16 Stranded mm² 1 x 16 Stranded mm² 1 x (25 - 185) Stranded mm² 1 x (25 - 185) Bolt terminal and rear-side connection mm² 1 x (25 - 185) Bolt terminal and rear-side connection mm² 1 x (10 - 16) 2 x (6 - 16) Solid mm² 1 x (10 - 16) 2 x (6 - 16) Stranded mm² 1 x (25 - 185) 2 x (25 - 70)	
Accessories required Optional accessories Optional accessories Round copper conductor Box terminal Solid Stranded Solid Stranded 1-hole 1-hole Bolt terminal and rear-side connection Direct on the switch Stranded Stranded Stranded Solid Mm2 1 x (25 - 185) 2 x (25 - 70) Mm2 1 x (25 - 185) 2 x (25 - 185) 3 x (25 - 185) 4 x (25 - 185) 5 x (25 - 70)	
Optional accessories Box terminal Tunnel terminal connection on rear Round copper conductor Connection on rear Box terminal Terminal Solid mm² 1x (10 - 16) 2x (6 - 16) 2x (6 - 16) Stranded mm² 1x (25 - 185) 2x (25 - 70) Tunnel terminal mm² 1x 16 Stranded mm² 1x (25 - 185) Bolt terminal and rear-side connection mm² 1x (25 - 185) Bolt terminal and rear-side connection mm² 1x (10 - 16) 2x (6 - 16) Solid mm² 1x (10 - 16) 2x (6 - 16) Stranded mm² 1x (25 - 185) 2x (25 - 70)	
Tunnel terminal connection on rear	
Box terminal Solid mm² 1 x (10 - 16) 2 x (6 - 16) Stranded mm² 1 x (25 - 185) 2 x (25 - 70) Tunnel terminal Solid mm² 1 x 16 Stranded mm² 1 x (25 - 185) Stranded mm² 1 x (25 - 185) Bolt terminal and rear-side connection mm² 1 x (25 - 185) Bolt terminal and rear-side connection Solid mm² 1 x (10 - 16) 2 x (6 - 16) Stranded mm² 1 x (25 - 185) 2 x (25 - 70)	
Solid mm² 1 x (10 - 16) 2 x (6 - 16) Stranded mm² 1 x (25 - 185) 2 x (25 - 70) Tunnel terminal Solid mm² 1 x 16 Stranded mm² 1 x (25 - 185) Bolt terminal and rear-side connection Direct on the switch Solid mm² 1 x (10 - 16) 2 x (6 - 16) 2 x (6 - 16) Stranded	
Stranded	
Tunnel terminal 2 x (25 - 70) Tunnel terminal	
Solid mm² 1 x 16 Stranded mm² 1 x (25 - 185) Bolt terminal and rear-side connection mm² 1 x (25 - 185) Direct on the switch mm² 1 x (10 - 16) 2 x (6 - 16) Stranded mm² 1 x (25 - 185) 2 x (25 - 70)	
Stranded mm² 1 x (25 - 185) Bolt terminal and rear-side connection To rect on the switch Solid mm² 1 x (10 - 16) 2 x (6 - 16) Stranded mm² 1 x (25 - 185) 2 x (25 - 70)	
1-hole	
Bolt terminal and rear-side connection	
Bolt terminal and rear-side connection	
Direct on the switch mm² 1 x (10 - 16) 2 x (6 - 16) Stranded mm² 1 x (25 - 185) 2 x (25 - 70)	
Solid mm ² 1 x (10 - 16) 2 x (6 - 16) Stranded mm ² 1 x (25 - 185) 2 x (25 - 70)	
2 x (6 - 16) Stranded mm ² 1 x (25 - 185) 2 x (25 - 70)	
2 x (25 - 70)	
Al circular conductor	
Tunnel terminal	
Solid mm ² 1x16	
Stranded	
Stranded 1 x (25 - 185)	
Cu strip (number of segments x width x segment thickness)	
Box terminal	
min. mm 2 x 9 x 0.8	
max. mm 10 x 16 x 0.8	
(2x) 8 x 15.5 x 0,8	
Bolt terminal and rear-side connection	
Flat copper strip, with holes min. mm 2 x 16 x 0.8	
Flat copper strip, with holes max. mm 10 x 24 x 0.8	
Copper busbar (width x thickness) mm	
Bolt terminal and rear-side connection	
Screw connection M8	
Direct on the switch	
min. mm 16 x 5	
max. mm 24 x 8	
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	In	Α	200
Equipment heat dissipation, current-dependent	P_{vid}	W	48
Operating ambient temperature min.		°C	-25

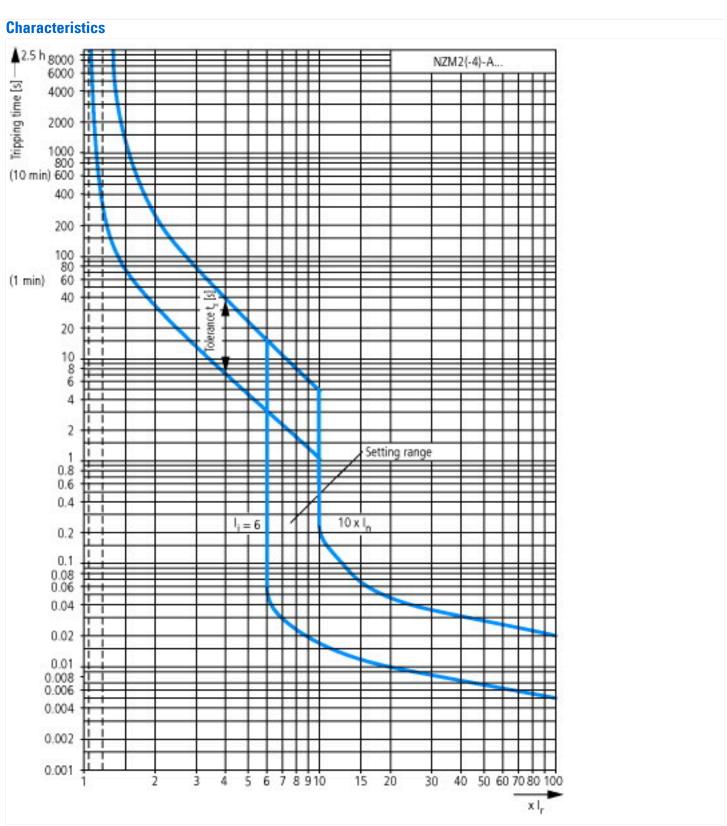
Operating ambient temperature max.	°C	70
EC/EN 61439 design verification		
10.2 Strength of materials and parts		
10.2.2 Corrosion resistance		Meets the product standard's requirements.
10.2.3.1 Verification of thermal stability of enclosures		Meets the product standard's requirements.
10.2.3.2 Verification 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 switch gear must b observed. $\label{eq:controller}$
10.12 Electromagnetic compatibility		Is the panel builder's responsibility. The specifications for the switch gear must b observed. $\label{eq:builder}$
10.13 Mechanical function		The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.

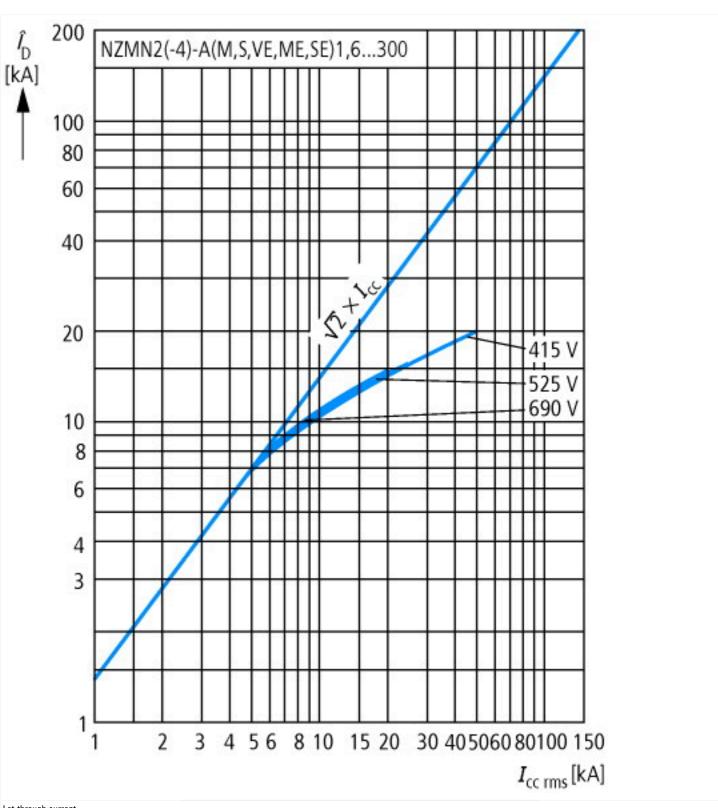
Technical data ETIM 7.0

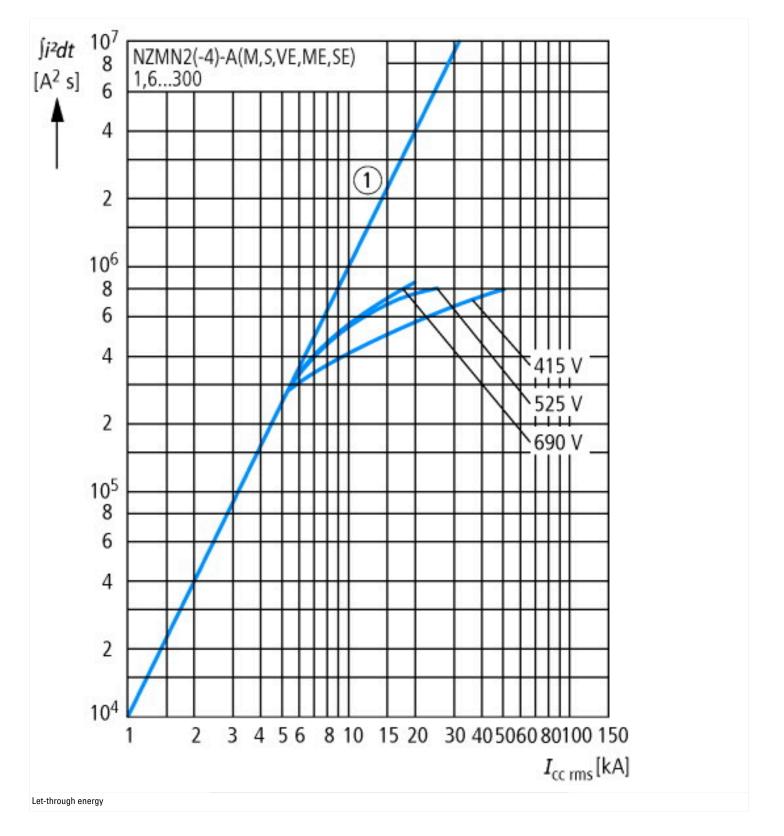
 $Low-voltage\ industrial\ components\ (EG000017)\ /\ Power\ circuit-breaker\ for\ trafo/generator/installation\ protection\ (EC000228)$

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])

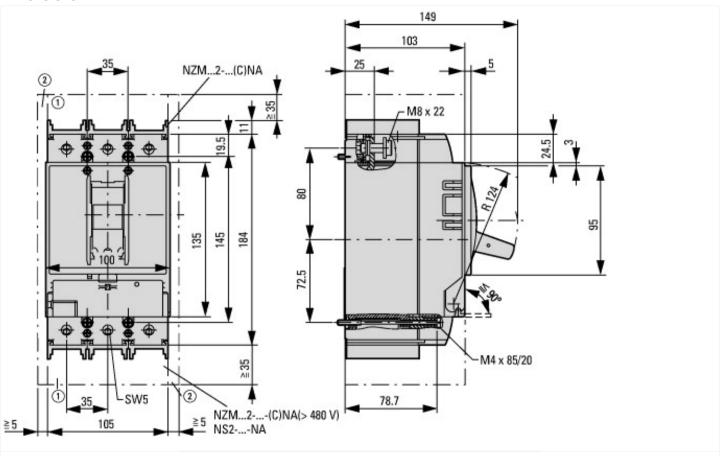
Rated permanent current lu	Α	200
Rated voltage	V	690 - 690
Rated short-circuit breaking capacity Icu at 400 V, 50 Hz	kA	50
Overload release current setting	Α	160 - 200
Adjustment range short-term delayed short-circuit release	Α	0 - 0
Adjustment range undelayed short-circuit release	Α	1200 - 2000
Integrated earth fault protection		No
Type of electrical connection of main circuit		Screw connection
Device construction		Built-in device plug-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		Yes
Degree of protection (IP)		IP20



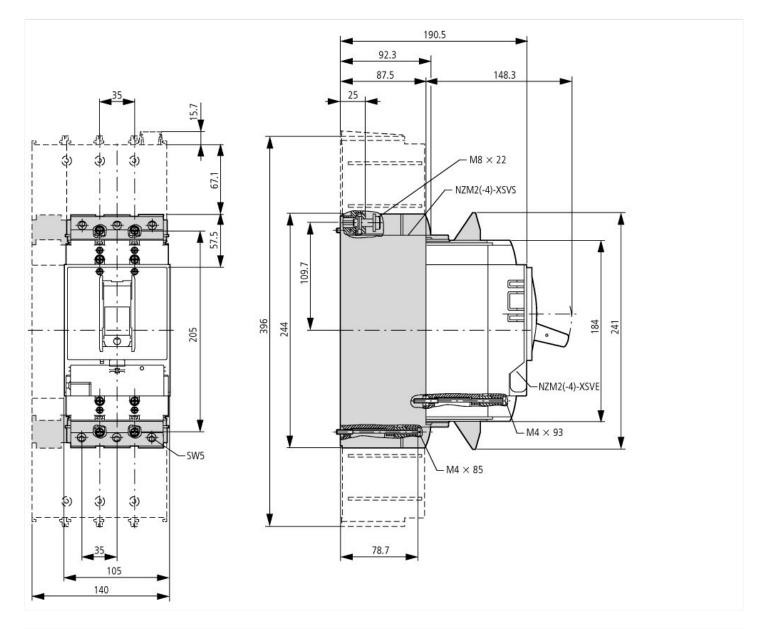




Dimensions



Blow out area, minimum clearance to adjacent parts
 Minimum clearance to adjacent parts



Additional product information (links)

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