

Circuit-breaker, 3p, 800A

Part no. NZMN4-VE800-NA Article no. 271154



Similar to illustration

De	livery	, pro	gram
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Delivery program			
Product range			Circuit-breaker
Protective function			Systems, cable, selectivity and generator protection
Standard/Approval			UL/CSA, IEC
Release system			Electronic release
Installation type			Fixed
Description			Switches conform to UL/CSA as well as the IEC regulations. IEC switching performance values are contained on the rating plate. Adjustable overload releases Ir R.m.s. value measurement and "thermal memory" adjustable time delay setting to overcome current peaks tr: 2 – 20 s at 6 x Ir Adjustable delay time tsd: Steps: 0, 20, 60, 100, 200, 300, 500, 750, 1000 ms i ² t constant function: switchable
Frame size			NZM4
Number of poles			3 pole
Standard equipment			Screw connection
Switching capacity			
SCCR 480 V 60 Hz	I _{cu}	kA	42
SCCR 600 V 60 Hz	I _{cu}	kA	35
Rated current = rated uninterrupted current			
Rated current = rated uninterrupted current	$I_n = I_u$	Α	800
Setting range			
Overload trip			
中	I _r	Α	400 - 800
Short-circuit releases			
Non-delayed	$I_i = I_n x \dots$		2 - 12
Delayed	$I_{sd} = I_r x \dots$		2 - 10

Technical data

General

		IEC/EN 60947
		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
	°C	- 40 - + 70
	°C	-25 - +70
!	g	15 (half-sinusoidal shock 11 ms)
		g °C °C

Between auxiliary contacts and main contacts		V AC	500
between the auxiliary contacts		V AC	300
Weight		kg	21
Mounting position			
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 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)			Weight Temperature dependency, Derating Effective power loss
Circuit-breakers			
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	≤ ₅₂₅
Switching capacity			
Rated short-circuit making capacity	I _{cm}		
240 V	I _{cm}	kA	105
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 O-t-CO	lcu	kA	
240 V 50/60 Hz	I _{cu}	kA	50
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
lcs to IEC/EN 60947 test cycle 0-t-C0-t-C0	Ics	kA	
240 V 50/60 Hz	I _{cs}	kA	37
400/415 V 50/60 Hz		kA	37
	I _{cs}		
440 V 50/60 Hz	I _{cs}	kΑ	26
525 V 50/60 Hz	I _{cs}	kA	19
690 V 50/60 Hz	I _{cs}	kA A aG/al	15
Maximum low-voltage h.b.c. fuse		A gG/gL	
			Maximum back-up fuse, if the expected short-circuit currents at the installation location exceed the switching capacity of the circuit-breaker.
Technical data that diverge from products for the IEC market			
Switching capacity of NA switches (UL489, CSA 22.2 No. 5.1) Short-circuit current rating SCCR			

SCCR 240 V 60 Hz	I _{cu}	kA	85
SCCR 480 V 60 Hz	I _{cu}	kA	42
SCCR 600 V 60 Hz	I _{cu}	kA	35
Rated short-time withstand current			
t = 0.3 s	I _{cw}	kA	19.2
t = 1 s	I _{cw}	kA	19.2
Utilization category to IEC/EN 60947-2			A
Rated making and breaking capacity			
Rated operational current	I _e	Α	
AC-1			
400/415 V 50/60 Hz	l _e	Α	2000
415 V	l _e	Α	1600
690 V 50/60 Hz	le	Α	800
AC3			
400/415 V 50/60 Hz	l _e	Α	800
690 V 50/60 Hz	I _e	Α	800
300 V 30/30 NE	'e	,,	
			For AC3 rated operational current with NZM4 the following applies: 400 V: max. 650 kW; 690 V: max. 600 kW
Lifespan, mechanical(of which max. 50 % trip by shunt/undervoltage release)	Operations		10000
Lifespan, electrical			
AC-1			
400 V 50/60 Hz	Operations		3000
690 V 50/60 Hz	Operations		2000
AC3			
400 V 50/60 Hz	Operations		2000
415 V 50/60 Hz	Operations		2000
690 V 50/60 Hz	Operations		1000
Max. operating frequency		Ops/h	60
Total downtime in a short-circuit		ms	< 25 ≤ 415 V; < 35 > 415 V
Terminal capacity			710 4, 100 / 710 4
Standard equipment			Screw connection
Round copper conductor			
Tunnel terminal			
Stranded		mm ²	
4-hole		mm ²	4 x (1/0 - 500)
Bolt terminal and rear-side connection		111111	11. 11.
Direct on the switch			
Stranded		2	1 x (250 350)
Granaca		mm ²	4 x (0 350)
Module plate			
Single hole	min.	mm ²	1 x (250 - 600)
Single hole	max.	mm ²	2 x (3/0 - 600)
Module plate			
Double hole	min.	mm ²	2 x (3/0 - 350)
Double hole			
	max.	mm ²	4 x (2 - 350)
Connection width extension		mm ²	
Connection width extension		mm ²	4 x 600 6 x (3/0 - 500)
Al conductors, Cu cable			
Stranded		mm ²	
4-hole		mm ²	4 x (50 - 240)
Bolt terminal and rear-side connection			
			(2 x) 10 x 50 x 1.0

Flat copper strip, with holes	max.	mm	(2 x) 10 x 50 x 1.0
Connection width extension		mm	(2 x) 10 x 80 x 1.0
Cu strip (number of segments x width x segment thickness)			
Flat conductor terminal			
	min.	mm	6 x 16 x 0.8
	max.	mm	(2 x) 10 x 32 x 1.0
Module plate			
Single hole		mm	(2 x) 10 x 50 x 1.0
Bolt terminal and rear-side connection			
Flat copper strip, with holes	min.	mm	(2 x) 10 x 50 x 1.0
Flat copper strip, with holes	max.	mm	(2 x) 10 x 50 x 1.0
Connection width extension		mm	(2 x) 10 x 80 x 1.0
Copper busbar (width x thickness)	mm		
Bolt terminal and rear-side connection			
Screw connection			M10
Direct on the switch			
	min.	mm	25 x 5
	max.	mm	2 x (50 x 10) 2 x (80 x 10)
Module plate			
Single hole	min.	mm	25 x 5
Single hole	max.	mm	2 x (50 x 10)
Module plate			
Double hole		mm	2 x (50 x 10)
Connection width extension		mm	
Connection width extension	min.	mm	60 x 10
Connection width extension	max.	mm	2 x (80 x 10)
Control cables			
		mm ²	1 x (18 14) 2 x (18 16)

Design verification as per IEC/EN 61439

200:9:: 10::::0ai:0:: ao po: :20,2:: 0: :00			
Technical data for design verification			
Rated operational current for specified heat dissipation	In	Α	800
Equipment heat dissipation, current-dependent	P _{vid}	W	71.04
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 6.0

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

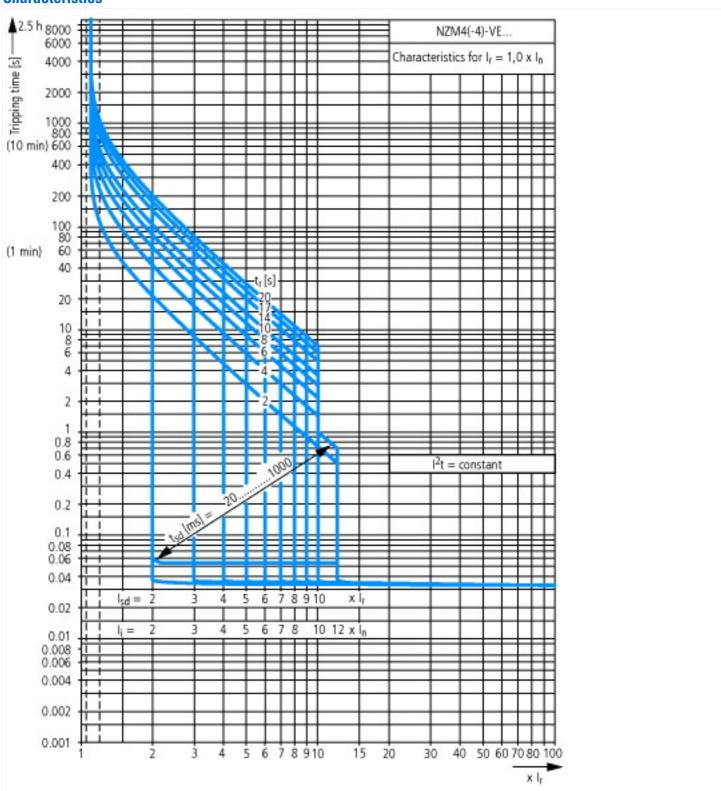
Electric engineering, automation, process control engineering / Low-voltage switch technology / Circuit breaker (LV < 1 kV) / Circuit breaker for power transformer, generator and system protection (ecl@ss8.1-27-37-04-09 [AJZ716010])

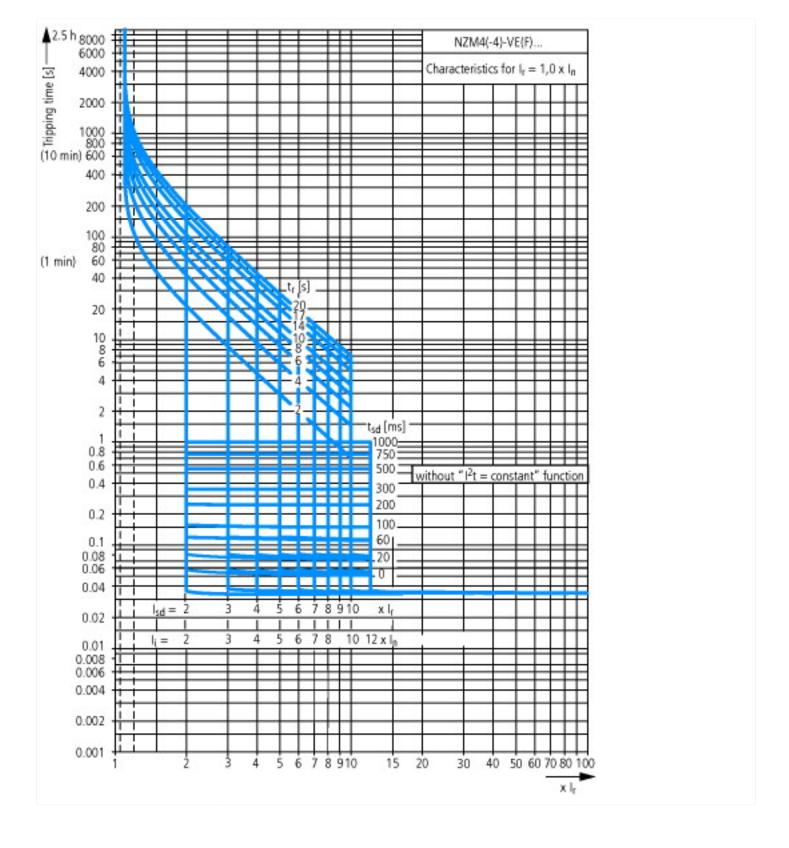
protection (ecl@ss8.1-2/-3/-04-09 [AJZ/16010])		
Rated permanent current lu	А	800
Rated voltage	V	690 - 690
Rated short-circuit breaking capacity Icu at 400 V, 50 Hz	kA	50
Overload release current setting	А	400 - 800
Adjustment range short-term delayed short-circuit release	А	800 - 8000
Adjustment range undelayed short-circuit release	А	1600 - 9600
Integrated earth fault protection		No
Type of electrical connection of main circuit		Screw connection
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		No
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
Switched-off indicator available		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

Approvals

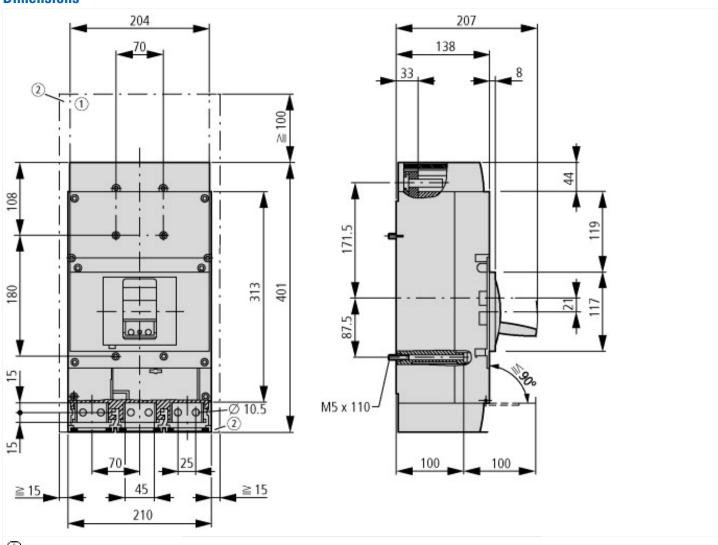
Product Standards	UL 489; CSA-C22.2 No. 5-09; IEC 60947-2; CE marking
UL File No.	E31593
UL Category Control No.	DIVQ
CSA File No.	022086
CSA Class No.	1432-01
North America Certification	UL listed, CSA certified
Specially designed for North America	Yes
Suitable for	Feeder circuits, branch circuits
Current Limiting Circuit-Breaker	No
Max. Voltage Rating	600 V
Degree of Protection	IEC: IP20; UL/CSA Type: -

Characteristics





Dimensions



Blow out area, minimum clearance to adjacent parts Ui \leq 690 V: 100 mm Ui \leq 1500 V: 200 mm

Minimum clearance to adjacent parts
Ui ≤ 1000 V: 15 mm
Ui ≤ 1500 V: 70 mm

Additional product information (links)

Additional product information (mixs)				
IL01210010Z (AWA1230-2022) Circuit-Breaker, basic unit				
IL01210010Z (AWA1230-2022) Circuit-Breaker, basic unit	ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL01210010Z2015_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			