### **DATASHEET - NZMN4-VE800**



Circuit-breaker, 3p, 800A

Part no. NZMN4-VE800 Catalog No. 265769

EL-Nummer (Norway) 4358938



Similar to illustration

**Delivery program** 

Delivery program			
Product range			Circuit-breaker
Protective function			Systems, cable, selectivity and generator protection
Standard/Approval			IEC
Installation type			Fixed
Release system			Electronic release
Construction size			NZM4
Description			R.m.s. value measurement and "thermal memory" Adjustable time delay setting to overcome current peaks tr at 6 x Ir also infinity (without overload releases) Adjustable delay time tsd $\rm i^2t$ constant function: switchable
Number of poles			3 pole
Standard equipment			Screw connection
Switching capacity			
400/415 V 50 Hz	I <sub>cu</sub>	kA	50
Rated current = rated uninterrupted current			
Rated current = rated uninterrupted current	$I_n = I_u$	Α	800
Setting range			
Overload trip			
中	I <sub>r</sub>	Α	400 - 800
Short-circuit releases			
Non-delayed	$I_i = I_n \times \dots$		2 - 15
Delayed X >	$I_{sd} = I_r x \dots$		2 - 10

# **Technical data**

General

delleral			
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	15 (half-sinusoidal shock 11 ms)
Safe isolation to EN 61140			
Between auxiliary contacts and main contacts	,	V AC	500
between the auxiliary contacts	,	V AC	300

Weight		kg	21
Mounting position		9	Vertical and 90° in all directions
Moduling position			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	1 -1	Α	900
Rated current = rated uninterrupted current	I <sub>n</sub> = I <sub>u</sub>	А	800
Rated surge voltage invariability	U <sub>imp</sub>	.,	2000
Main contacts		V	8000
Auxiliary contacts	ш	V	6000
Rated operational voltage	U <sub>e</sub>	V AC	690
Overvoltage category/pollution degree  Rated insulation voltage	11.	V	1000
	Ui	V	≦ 525
Use in unearthed supply systems  Switching capacity		V	= 323
Rated short-circuit making capacity	I <sub>cm</sub>		
240 V	I <sub>cm</sub>	kA	105
400/415 V	I <sub>cm</sub>	kA	105
440 V 50/60 Hz	I <sub>cm</sub>	kA	74
525 V 50/60 Hz	I <sub>cm</sub>	kA	53
690 V 50/60 H	Ic	kA	40
Rated short-circuit breaking capacity I <sub>cn</sub>	I <sub>cn</sub>		
Icu to IEC/EN 60947 test cycle 0-t-C0	lcu	kA	
240 V 50/60 Hz	I <sub>cu</sub>	kA	50
400/415 V 50/60 Hz	I <sub>cu</sub>	kA	50
440 V 50/60 Hz	I <sub>cu</sub>	kA	35
525 V 50/60 Hz	I <sub>cu</sub>	kA	25
690 V 50/60 Hz	I <sub>cu</sub>	kA	20
Ics to IEC/EN 60947 test cycle 0-t-C0-t-C0	lcs	kA	
240 V 50/60 Hz	I <sub>cs</sub>	kA	37
400/415 V 50/60 Hz	I <sub>cs</sub>	kA	37
440 V 50/60 Hz	I <sub>cs</sub>	kA	26
525 V 50/60 Hz	I <sub>cs</sub>	kA	19
690 V 50/60 Hz	I <sub>cs</sub>	kA	15
			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 <sub>cw</sub>	kA	12
t = 1 s	I <sub>cw</sub>	kA	12
Utilization category to IEC/EN 60947-2			В
Lifespan, mechanical(of which max. 50 % trip by shunt/undervoltage release)	Operations		10000
Lifespan, electrical			

400 V 50/60 Hz       Operations       3000         415 V 50/60 Hz       Operations       3000         690 V 50/60 Hz       Operations       2000         400 V 50/60 Hz       Operations       2000         415 V 50/60 Hz       Operations       2000         690 V 50/60 Hz       Operations       2000         Max. operating frequency       Operations       1000         Total break time at short-circuit       ms       <25 ≤ 415 V; <35 > 415 V         Terminal capacity         Standard equipment       Screw connection         Optional accessories       Tunnel terminal connection on rear Strip terminal				
149   149	AC-1			
AC-3				
ACI - 1 ANY PASO 1				
Countries   Coun		Operations		2000
15   15   16   16   17   18   18   18   18   18   18   18				
OBUT 9500 NE         Obvertion         1000           Max. oxering requestory         1000         1000           Command capacity         1000         1000           Command capacity         2000         1000           Command capacity         1000         1000           Command capacity         1000         1000           Command capacity         1000         1000           Through turninal         1000         1000           Should applied a commendinal         1000         1000           But turninal and non-side commendinal         1000         1000           Should be fined         1000         1000           Modular plate         1000         1000         1000           Should be fined         1000         1000         1000           Modular plate         1000         1000         1000         1000           Should be fined         1000         1000         1000         1000         1000         1000           Al scaled         1000         1000         1000         1000         1000         1000         1000         1000         1000         1000         1000         1000         1000         1000         1000         100	400 V 50/60 Hz	Operations		2000
Man to personing frequency   10	415 V 50/60 Hz	Operations		2000
Terminal capacity	690 V 50/60 Hz	Operations		1000
Townset despoirs         Server connection           Quomal accepations         Server connection on reary connection r	Max. operating frequency		0ps/h	60
Simulated regimement         Service connection         Service connection           Opinional accessories         Service connection         Septemble consider           Tunnel terminal         1			ms	< 25 ≤ 415 V; < 35 > 415 V
Optional accessories         Series         Tomest terminal consumeration or near Simp terminal consumeration.         Total Consumeration.         T				
Second cooper conductor   Turner for turner for the work of the				
Turnel terminal   February   Fe	Uptional accessories			connection on rear
Stranded	Round copper conductor			
A thole	Tunnel terminal			
Bolt terminal and rear-side connection	Stranded			
Direct on the switch   Stranded	4-hole		mm <sup>2</sup>	4 x (50 - 240)
Stranded   max	Bolt terminal and rear-side connection			
Module plate	Direct on the switch			
Single hole         min.         mm²         1 (120 - 300)           Single hole         max         ma²         2 (295 - 300)           Module plate         max         y 2 (295 - 185)           Double hole         min.         ma²         2 (395 - 185)           Connection width extension         ma²         4 (305 - 185)           Connection width extension         ma²         4 × 300 m²           Al circular conductor         ma²         4 × 300 m²           Tunnel tordinal         ma²         x (300 - 240)           Stranded         ma²         x (300 - 240)           4 + hole         ma²         x (300 - 240)           Bolt terminal and rear-side connection         ma²         x (300 - 240)           Module plate         ma²         x (300 - 240)           Single hole         ma²         x (300 - 240)           Single hole         ma²         x (300 - 240)           Module plate         ma²         x (300 - 240)           Module plate         ma²         x (300 - 240)           Connection width extension         ma²         x (300 - 240)           Connection width extension         ma²         x (300 - 240)           Connection width extension         ma² <t< td=""><td>Stranded</td><td></td><td>mm<sup>2</sup></td><td></td></t<>	Stranded		mm <sup>2</sup>	
Single hole	Module plate			
Module plate         min.         mm²         2 x 195 - 185             Double hole         mix.         mm²         4 x 35 - 185             Connection width extension         mm²         4 x 30 - 185             Connection width extension         mm²         4 x 300             Al circular conductor         mm²         4 x 300             Tunnel terminal         mm²         4 x 500 - 240)           Straded         mm²         4 x 50 - 240)           Bolt terminal and rear-side connection         mm²         1 x 185 - 240)           Module plate         mm²         1 x 185 - 240)           Single hole         mm²         1 x 185 - 240)           Module plate         mm²         1 x 185 - 240)           Module plate         mm²         2 x 70 - 185           Connection width extension         mm²         2 x 70 - 185           Connection width extension         mm²         2 x 200           Custrip (number of segments x width x segment thickness)         mm²         2 x 200           Flat conductor terminal         mm²         8 x 10 x 20           Module plate         mm²         2 x 10 x 20 x 1.0           Module plate         mm²         2 x 10 x 20 x 1.0           Module plate	Single hole	min.	mm <sup>2</sup>	1 x (120 - 300)
Module plate   Double hole	Single hole	max.	mm <sup>2</sup>	2 x (95 - 300)
Double hole         min.         mm²         2 x (95 - 185)           Double hole         max.         mm²         4 x (35 - 185)           Connection width extension         mm²         x (35 - 185)           Connection width extension         mm²         x (35 - 240)           Al Circular conductor         x (35 - 240)         x (35 - 240)           Tunnel terminal         x (35 - 240)         x (35 - 240)           Bolt terminal and rear-side connection         x (35 - 240)         x (35 - 240)           Module plate         x (45 - 240)         x (35 - 240)           Single hole         x (37 - 185)         x (37 - 185)           Module plate         x (47 - 185)         x (47 - 185)           Connection width extension         x (45 - 240)         x (45 - 240)           Connection width extension         x (45 - 240)         x (45 - 240)           Connection width extension         x (45 - 240)         x (47 - 240)           Custrip (number of segments xwidth x segment thickness)         x (47 - 240)         x (47 - 240)           Flat conductor terminal         x (47 - 240)         x (47 - 240)         x (47 - 240)           Custrip (number of segments xwidth x segment thickness)         x (47 - 240)         x (47 - 240)         x (47 - 240)         x (47 - 240)				
Double hole		min	2	2 x /95 - 185l
Connection width extension				
Connection width extension	Double hole	max.	mm <sup>2</sup>	4 x (35 - 185)
Al circular conductor   Tunnel terminal   Tunn	Connection width extension		$mm^2$	
Tunnel terminal         Key 10 (1) (2) (2) (2) (2) (2) (2) (2) (2) (2) (2	Connection width extension		mm <sup>2</sup>	
Stranded         4-hole         mm²         4×50 - 240)           Bolt terminal and rear-side connection	Al circular conductor			
A-hole	Tunnel terminal			
Bolt terminal and rear-side connection         Image: Connection of Earth (Connection width extension)         Image: Connection width extension         Image:	Stranded			
Module plate         min.         mm²         1 x (185 - 240)           Single hole         mm²         2 x (70 - 185)           Module plate         mm²         4 x 50           Connection width extension         mm²         2 x 240           Connection width extension         mm²         2 x 240           Cu strip (number of segments x width x segment thickness)         mm²         2 x 240           Flat conductor terminal         min.         mm         6 x 16 x 0.8           Module plate         max         mm         (2x) 10x 32 x 1.0           Module plate         mm         (2x) 10x 32 x 1.0           Single hole         mm         (2x) 10x 50 x 1.0           Bolt terminal and rear-side connection         min.         mm         5 x 25 x 1.0           Flat copper strip, with holes         min.         mm         5 x 25 x 1.0           Flat copper strip, with holes         max         mm         (2x) 10x 50x 1.0	4-hole		$\text{mm}^2$	4 x (50 - 240)
Single hole	Bolt terminal and rear-side connection			
Single hole  Module plate  Double hole  Connection width extension  Connection width extension  Connection width extension  Connection width extension  Custrip (number of segments x width x segment thickness)  Flat conductor terminal  Module plate  Module plate  Single hole  Single hole  Single hole  Single hole  Flat copper strip, with holes  min.  mi	Module plate			
Module plate  Double hole  Connection width extension  Connection width extension  The connection width extension  Custrip (number of segments x width x segment thickness)  Flat conductor terminal  min.  mm  6 x 16 x 0.8  max.  mm  Module plate  Single hole  Single hole  Bolt terminal and rear-side connection  Flat copper strip, with holes  min.  mm  5 x 25 x 1.0  max.  mm  (2 x) 10 x 50 x 1.0  Elat copper strip, with holes  max.  mm  (2 x) 10 x 50 x 1.0	Single hole	min.	$mm^2$	1 x (185 - 240)
Module plate Double hole Connection width extension Connection width extension  Connection width extension  Connection width extension  Custrip (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 Bolt terminal and rear-side connection  Flat copper strip, with holes  min. mm 5 x 25 x 1.0  max. mm (2 x) 10 x 50 x 1.0	Single hole	max.	mm <sup>2</sup>	2 x (70 - 185)
Double hole Connection width extension  Mm2  2x 240 6x (70 - 240)  Flat conductor terminal  Min.  Mm  6x 16 x 0.8  Connection  Mmx  Mm  6x 16 x 0.8  Connection  Mmx  Mm  Cox 10 x 32 x 1.0  Mmx  Mmx  Cox 10 x 30 x 1.0  Mmx  Mmx  Mmx  Cox 10 x 50 x 1.0  Mmx  Flat copper strip, with holes  Min.  Mmx  Mmx  Mmx  Mmx  Mmx  Mmx  Mmx  Mm	Module plate			
Connection width extension  Connection width extension  Connection width extension  Cu strip (number of segments x width x segment thickness)  Flat conductor terminal  min. mm 6x 16x 0.8  max. mm (2x) 10x 32x 1.0  Module plate  Single hole  Single hole  Bolt terminal and rear-side connection  Flat copper strip, with holes  flat copper strip, with holes  max. mm (2x) 10x 50x 1.0  xmm (2x) 10x 50x 1.0			mm <sup>2</sup>	4 x 50
Connection width extension         mm²         2 x 240 6 x (70 - 240)           Cu strip (number of segments x width x segment thickness)         y         y           Flat conductor terminal         min.         mm         6 x 16 x 0.8           Module plate         max.         mm         (2 x) 10 x 32 x 1.0           Single hole         mm         (2 x) 10 x 50 x 1.0           Bolt terminal and rear-side connection         min.         mm         5 x 25 x 1.0           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				
Cu strip (number of segments x width x segment thickness)       K       6 x (70 - 240)         Flat conductor terminal       Mm       Flat x 0.8         Module plate       Mmx.       Mm       (2 x) 10 x 32 x 1.0         Single hole       Mm       (2 x) 10 x 50 x 1.0         Bolt terminal and rear-side connection       Min.       mm       5 x 25 x 1.0         Flat copper strip, with holes       max.       mm       (2 x) 10 x 50 x 1.0         Flat copper strip, with holes       max.       mm       (2 x) 10 x 50 x 1.0				0040
Flat conductor terminal         min.         mm         6 x 16 x 0.8           Module plate         max.         mm         (2 x) 10 x 32 x 1.0           Single hole         mm         (2 x) 10 x 50 x 1.0           Bolt terminal and rear-side connection         mm         (2 x) 10 x 50 x 1.0           Flat copper strip, with holes         min.         mm         5 x 25 x 1.0           Flat copper strip, with holes         max.         mm         (2 x) 10 x 50 x 1.0			mm²	
min.         mm         6 x 16 x 0.8           max.         mm         (2 x) 10 x 32 x 1.0           Module plate         mm         (2 x) 10 x 50 x 1.0           Single hole         mm         (2 x) 10 x 50 x 1.0           Bolt terminal and rear-side connection         min.         mm         5 x 25 x 1.0           Flat copper strip, with holes         max.         mm         (2 x) 10 x 50 x 1.0				
Module plate         mm         (2 x) 10 x 32 x 1.0           Single hole         mm         (2 x) 10 x 50 x 1.0           Bolt terminal and rear-side connection         min.         mm         5 x 25 x 1.0           Flat copper strip, with holes         max.         mm         (2 x) 10 x 50 x 1.0	Flat conductor terminal			
Module plate     mm     (2 x) 10 x 50 x 1.0       Bolt terminal and rear-side connection     v     v       Flat copper strip, with holes     min.     mm     5 x 25 x 1.0       Flat copper strip, with holes     max.     mm     (2 x) 10 x 50 x 1.0				
Single hole mm (2 x) 10 x 50 x 1.0  Bolt terminal and rear-side connection min. mm 5 x 25 x 1.0  Flat copper strip, with holes max. mm (2 x) 10 x 50 x 1.0	M. 11. 12.	max.	mm	(2 X) IU X 32 X 1.U
Bolt terminal and rear-side connection  Flat copper strip, with holes  min.  mm 5 x 25 x 1.0  Flat copper strip, with holes  max.  mm (2 x) 10 x 50 x 1.0				(0.140. 50. 40.
Flat copper strip, with holes min. mm 5 x 25 x 1.0  Flat copper strip, with holes max. mm (2 x) 10 x 50 x 1.0			mm	(2 x) 10 x 50 x 1.0
Flat copper strip, with holes max. mm $(2 \times 10^{\circ}) \times 10^{\circ} \times 10^{\circ}$				5 05 10
Connection width extension mm (2 x) 10 x 80 x 1.0		max.		
	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)
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 <sup>2</sup>	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	800
Equipment heat dissipation, current-dependent	P <sub>vid</sub>	W	106
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 switch gear must be observed. $\label{eq:constraint}$
10.12 Electromagnetic compatibility			Is the panel builder's responsibility. The specifications for the switch gear must be observed. $\label{eq:constraint}$
10.13 Mechanical function			The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.

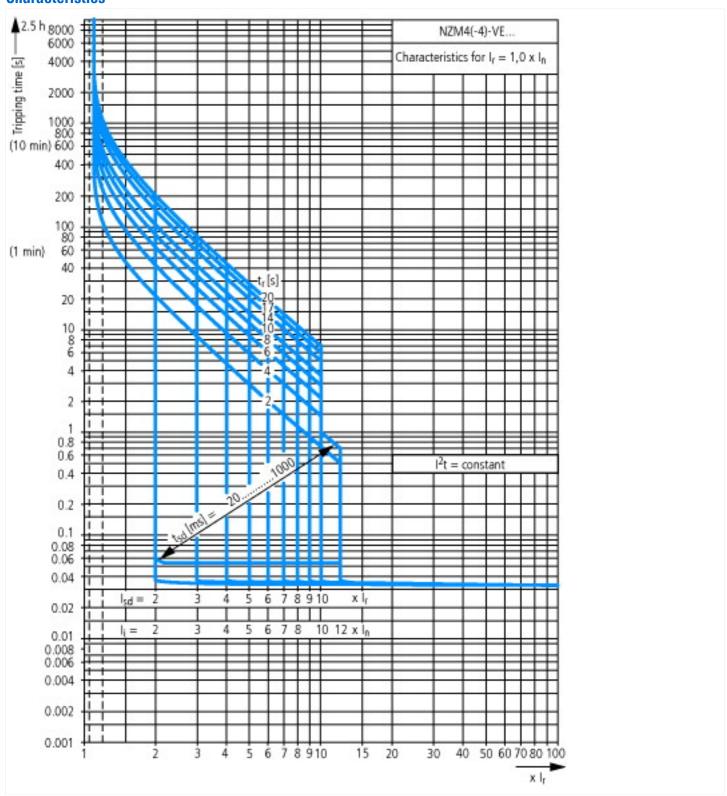
### **Technical data ETIM 7.0**

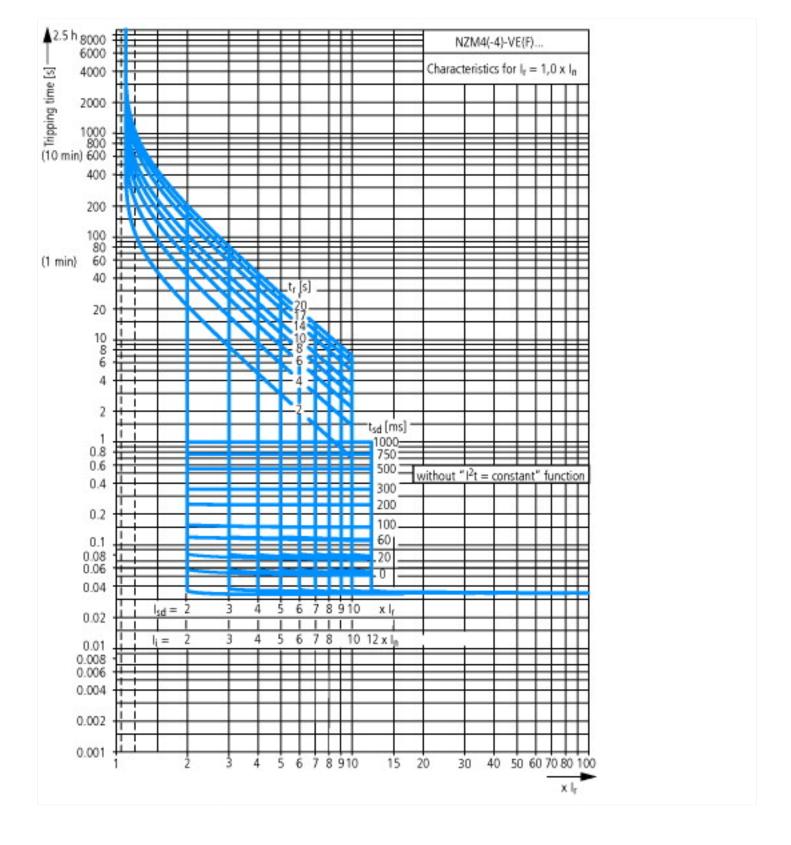
Low-voltage industrial components (EG000017) / Power circuit-breaker for trafo/generator/installation protection (EC000228)

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])

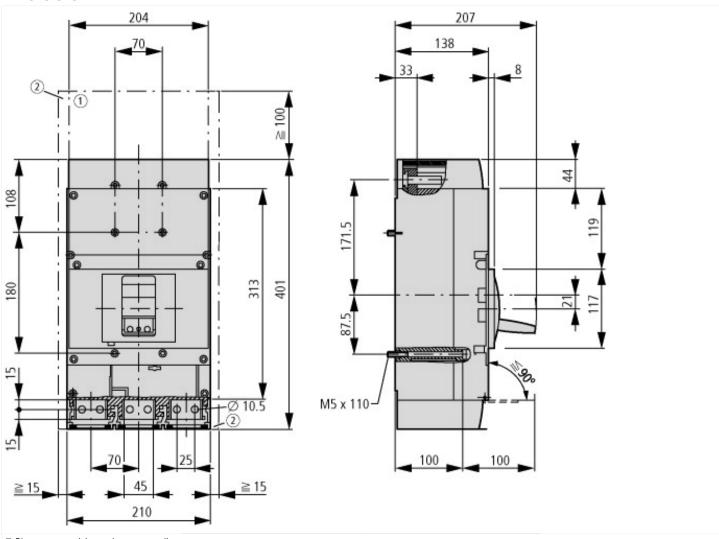
Rated permanent current lu	Α	800
Rated voltage	V	690 - 690
Rated short-circuit breaking capacity Icu at 400 V, 50 Hz	kA	50
Overload release current setting	Α	400 - 800
Adjustment range short-term delayed short-circuit release	Α	800 - 8000
Adjustment range undelayed short-circuit release	Α	1600 - 9600
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
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

#### **Characteristics**





### **Dimensions**



- ① Blow out area, minimum clearance to adjacent parts Ui  $\leq$  690 V: 100 mm Ui  $\leq$  1500 V: 200 mm ② Minimum clearance to adjacent parts Ui  $\leq$  1000 V: 15 mm Ui  $\leq$  1500 V: 70 mm

# **Additional product information (links)**

IL01210010Z (AWA1230-2022) Circuit-Breaker, basic unit				
IL01210010Z (AWA1230-2022) Circuit-Breaker, basic unit	ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL01210010Z2018_11.pdf			
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			
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_technic_de_en.pdf			