

Part no.

NZMN4-AE1000

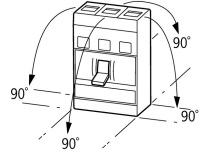
Article no.

265760

### Delivery programme

Product range			Circuit-breaker
Protective function			System and cable protection
Standard/Approval			IEC
Installation type			Fixed
Release system			Electronic release
Construction size			NZM4
Description			R.m.s. value measurement and "thermal memory"
Number of poles			3 pole
Standard equipment			Screw connection
Switching capacity			
400/415 V 50/60 Hz	$I_{cu}$	kA	50
Rated current = rated uninterrupted current			
Rated current = rated uninterrupted current	$I_n = I_u$	A	1000
<b>Setting range</b>			
Overload trip			
	$I_r$	A	500 - 1000
Short-circuit releases			
Non-delayed	$I_i = I_n \times$ ...		2 - 12

### 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		°C	
Ambient temperature, storage		°C	- 40 - + 80
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 VDE 0106 Part 101 and Part 101/A1			
Between auxiliary contacts and main contacts		V AC	500
between the auxiliary contacts		V AC	300
Weight		kg	21
Mounting position			
Mounting position			<p>Vertical and 90° in all directions</p>  <p>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</p>
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 current = rated uninterrupted current	$I_n = I_u$	A	1000
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	$U_i$	V	1000
Use in unearthed supply systems		V	$\leq 525$

## 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	$I_c$	kA	40
Rated short-circuit breaking capacity $I_{cn}$	$I_{cn}$		
$I_{cu}$ to IEC/EN 60947 test cycle O-t-CO	$I_{cu}$	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
$I_{cs}$ to IEC/EN 60947 test cycle O-t-CO-t-CO	$I_{cs}$	kA	
240 V 50/60 Hz	$I_{cs}$	kA	37
400/415 V 50/60 Hz	$I_{cs}$	kA	37
440 V 50/60 Hz	$I_{cs}$	kA	26
525 V 50/60 Hz	$I_{cs}$	kA	19
690 V 50/60 Hz	$I_{cs}$	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	$I_{cw}$	kA	19.2
t = 1 s	$I_{cw}$	kA	19.2
Utilization category to IEC/EN 60947-2			B (2000A: A)
Rated making and breaking capacity			
Rated operational current	$I_e$	A	
AC-1			
380 V 400 V	$I_e$	A	2000
415 V	$I_e$	A	1600
690 V	$I_e$	A	2000
AC--3			
380 V 400 V	$I_e$	A	1000
415 V	$I_e$	A	1000
660 V 690 V	$I_e$	A	1000
			For AC--3 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 V 50/60 Hz	Operations		3000
415 V V 50/60 Hz	Operations		3000
690 V 50/60 Hz	Operations		2000
AC--3			
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
Current heat losses per pole at $I_U$ are based on the maximum rated operational current of the frame size.		W	97
			For current heat loss per pole the specification refers to the maximum rated operational current of the frame size.
Total downtime in a short-circuit		ms	$< 25 \frac{I_U}{I_{sc}}$ 415 V; $< 35 >$ 415 V

## Terminal capacity

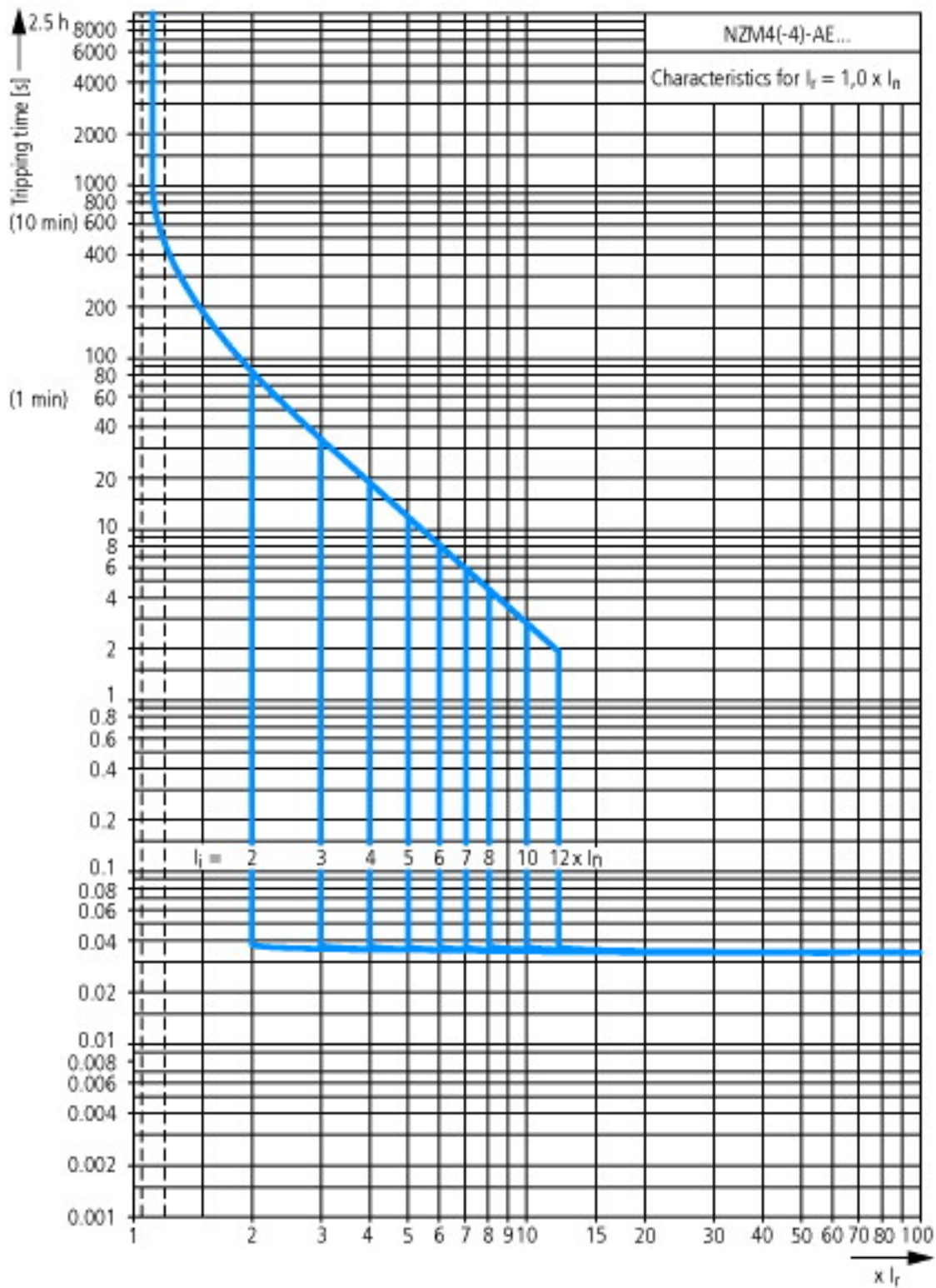
Standard equipment			Screw connection																																			
Overview			<p>Basic equipment</p> <table border="0"> <tr> <td>Box terminal</td> <td>●</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>Screw connection</td> <td>-</td> <td>●</td> <td>●</td> <td>●</td> </tr> </table> <p>Accessories</p> <table border="0"> <tr> <td>Box terminal</td> <td>-</td> <td>●</td> <td>●</td> <td>-</td> </tr> <tr> <td>Screw connection</td> <td>●</td> <td>-</td> <td>-</td> <td>●</td> </tr> <tr> <td>Tunnel terminal</td> <td>●</td> <td>●</td> <td>●</td> <td>●</td> </tr> <tr> <td>Connection on rear</td> <td>●</td> <td>●</td> <td>●</td> <td>●</td> </tr> <tr> <td>Flat conductor terminal</td> <td>-</td> <td>-</td> <td>-</td> <td>●</td> </tr> </table>	Box terminal	●	-	-	-	Screw connection	-	●	●	●	Box terminal	-	●	●	-	Screw connection	●	-	-	●	Tunnel terminal	●	●	●	●	Connection on rear	●	●	●	●	Flat conductor terminal	-	-	-	●
Box terminal	●	-	-	-																																		
Screw connection	-	●	●	●																																		
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Screw connection	●	-	-	●																																		
Tunnel terminal	●	●	●	●																																		
Connection on rear	●	●	●	●																																		
Flat conductor terminal	-	-	-	●																																		
Round copper conductor																																						
Tunnel terminal																																						
Stranded		mm <sup>2</sup>																																				
4-hole		mm <sup>2</sup>	4 x (50 - 240)																																			
Bolt terminal and rear-side connection																																						
Direct on the switch																																						
Stranded		mm <sup>2</sup>	1 x (120 ... 185) 4 x (50 ... 185)																																			
Module plate																																						
Single hole	min.	mm <sup>2</sup>	1 x (120 - 300)																																			
Single hole	max.	mm <sup>2</sup>	2 x (95 - 300)																																			
Module plate																																						
Double hole	min.	mm <sup>2</sup>	2 x (95 - 185)																																			
Double hole	max.	mm <sup>2</sup>	4 x (35 - 185)																																			
Connection width extension		mm <sup>2</sup>																																				
Connection width extension		mm <sup>2</sup>	4 x 300 6 x (95 - 240)																																			
Al conductors, Cu cable																																						
Stranded		mm <sup>2</sup>																																				
4-hole		mm <sup>2</sup>	4 x (50 - 240)																																			
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 <sup>2</sup>	(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 <sup>2</sup>	(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 <sup>2</sup>	(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 <sup>2</sup>	25 x 5
	max.	mm <sup>2</sup>	2 x (50 x 10) 2 x (80 x 10)
Module plate			
Single hole	min.	mm <sup>2</sup>	25 x 5
Single hole	max.	mm <sup>2</sup>	2 x (50 x 10)
Module plate			
Double hole		mm <sup>2</sup>	2 x (50 x 10)
Connection width extension		mm <sup>2</sup>	
Connection width extension	min.	mm <sup>2</sup>	60 x 10
Connection width extension	max.	mm <sup>2</sup>	2 x (80 x 10)
Control cables			
		mm <sup>2</sup>	1 x (0.75 - 2.5) 2 x (0.75 - 1.5)

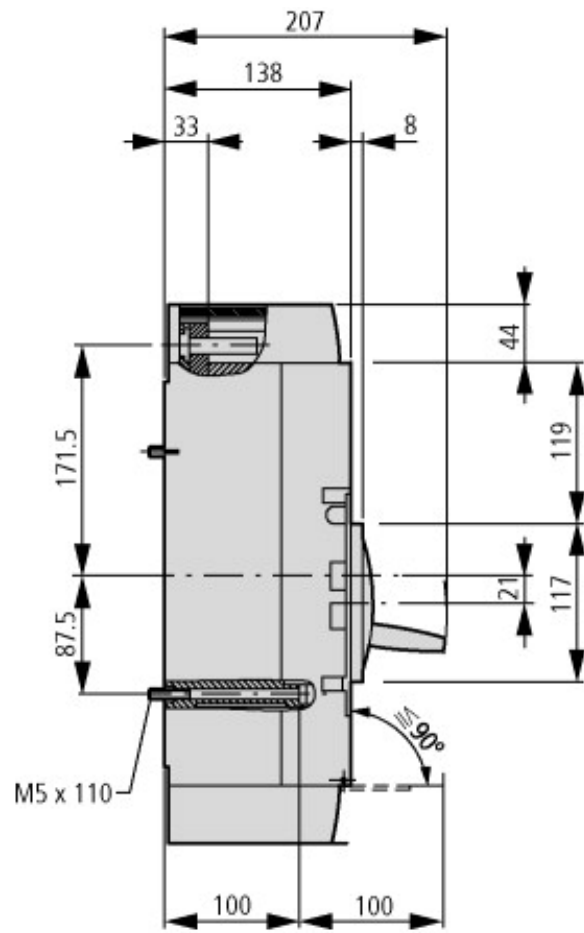
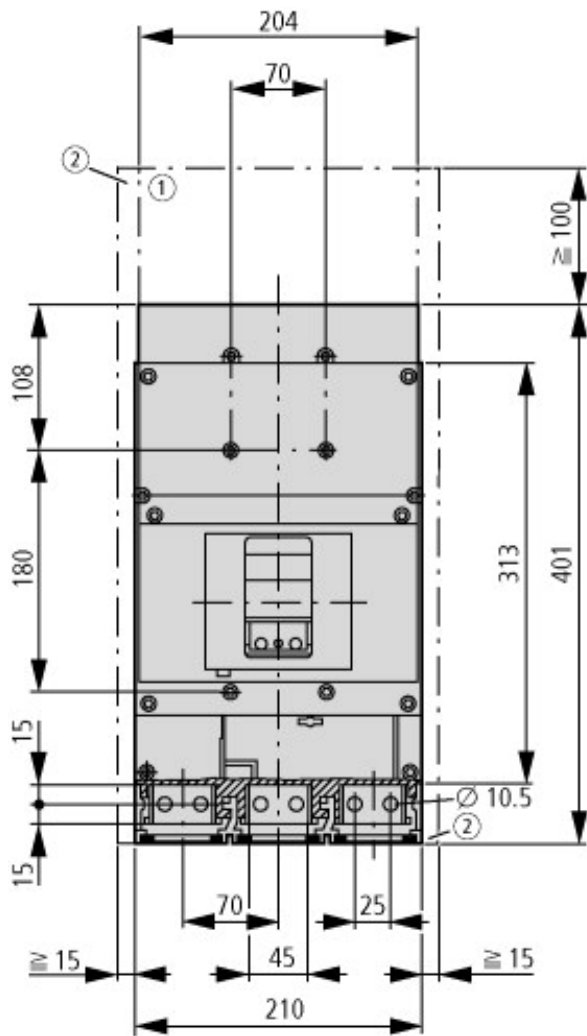
## Technische Daten nach ETIM 4.0



Number of poles			3
Rated uninterrupted current I <sub>u</sub>		A	1000
Number of auxiliary contacts as N/Cs			0
Number of auxiliary contacts as N/Os			0
Device construction			Built-in device fixed built-in technique
With under voltage release			No
Motor operator optional			YES
Integrated earth fault protection			No
Suitable for DIN rail (top hat rail) mounting			No
Setting range non-delayed short-circuit release		A	12000
Setting range short-term delayed short-circuit release		A	0
Rated short-circuit breaking capacity I <sub>cu</sub> at 400 V, 50 Hz		kA	50
Switched-off indicator available			No
Type of control element			Toggle lever
Connection type main current circuit			Screw connection
Motor operator integrated			No
Position of connection for main circuit			Front connection
Protection type (IP)			IP20
Number of auxiliary contacts as changeover contact			0
Setting range of overload releases		A	1000

## Characteristics



## Dimensions



-  Blow out area, minimum clearance to adjacent parts  
 Ui ≤ 690 V: 100 mm  
 Ui ≤ 1500 V: 200 mm
-  Minimum clearance to adjacent parts  
 Ui ≤ 1000 V: 15 mm  
 Ui ≤ 1500 V: 70 mm