MOELLER

Type: **NZMN4–4–VE1000**
Article No.: **265978**



Ordering information			
Description			Terminal screws standard, terminals as accessories
Rated current = rated uninterrupted current	I_u	A	1000
Setting range			
Short–circuit releases Non–delayed		A	2000 – 12000
Short–circuit releases Delayed	I_{rmv}	× I_r	1000 – 10000
Switching capacity Switching capacity		kA	50
Release system			Electronic release
Pole			4

Notes concerning the product group

IEC/EN 61131–2

Adjustable overload release I_r

- 0.5 – 1 × I_n (ex–factory0.8 × I_n)

Setting on neutral pole implemented via the main pole setting I_r of the main pole.

R.m.s. value measurement and “thermal memory”

Adjustable time delay setting to overcome current peaks t_r

- 2 – 20 s with 6 × I_r
- as well as infinity (without overload release) (ex–factory 10 s)

– NZM...3–4–VE630: 2 – 14 s With 6 × I_r as well as infinity (without overload release)

Adjustable delayed short–circuit releases I_{sd}

- 2 – 10 × I_r
- (ex–factory 6 × I_r)

– NZM...3–4–VE630: 1.5 – 7 × I_r (ex–factory 6 × I_r)

Adjustable delay time t_{sd}

- Steps: 0, 20, 60, 100, 200, 300, 500, 750, 1000 ms (ex–factory 0 ms)

Adjustable non–delayed short–circuit releases I_i

- NZM2 fixed 12 × I_n
- NZM...3–4–VE400: 2 – 11 × I_n (ex–factory 6 × I_n)
- NZM...3–4–VE630: 2 – 8 × I_n (ex–factory 6 × I_n)
- NZM...4–4–VE...: 2 – 12 × I_n (ex–factory 12 × I_n)

i^2t constant function (ex–factory OFF)

NZM2 fixed OFF

NZM3, NZM4 switched (ex–factory OFF)

NZM...–4–VE...

- With 100% overload and short–circuit protection in 4th pole

NZM...–4–VE.../...

- With 60% overload and short–circuit protection in 4th pole

NZM...–4–VE.../0

- No overload and 100 % short–circuit protection in the 4th pole
- Not for use in IT electrical power networks

For limiter switching capacity with NZML4–4–VE... the following applies: 100 kA

Notes concerning the product group

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, according to IEC 60068–2–78 Damp heat, cyclical to IEC 60068–2–30
Mechanical shock resistance (IEC/EN 60068–2–27)			
Shock resistance		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
Dimensions			
Weight			
Weight		kg	27
Mounting position			
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
Circuit–breakers			
Rated impulse withstand voltage 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
Switching capacity			

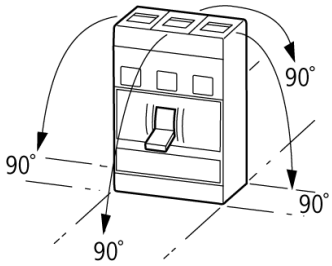
Rated short−circuit making capacity			
240 V	I_{cm}	kA	105
400/415 V	I_{cm}	kA	105
440 V	I_{cm}	kA	74
525 V	I_{cm}	kA	53
690 V	I_{cm}	kA	40
Rated short−circuit breaking capacity I_{cn}			
I_{cu} to IEC/EN 60947 operating sequence O−t−CO			
240 V 50/60 Hz	I_{cu}	kA	50
400/415 V 50/60 Hz	I_{cu}	kA	50
440 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_{cu} to IEC/EN 60947 operating sequence O−t−CO−t−CO			
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
Technical data, divergent from the products for the IEC market switching capacity NA switches (UL489, CSA 22.2 No. 5.1)			
240 V 60 Hz		kA	85
480V 60Hz		kA	42
600 V 60 Hz		kA	35
Utilization category to IEC/EN 60947−2			B
Rated short−time withstand current			
t = 0.3 s	I_{cw}	kA	19,2
t = 1 s	I_{cw}	kA	19,2
Lifespan, mechanical	Operations		10000
Maximum operating frequency			
Max. operating frequency		Ops/h	60
Lifespan, electrical			
AC−1			
400/415 V 50/60 Hz	Operations		3000

690 V 50/60 Hz	Operations		2000
AC–3			
400/415 V 50/60 Hz	Operations		2000
690 V 50/60 Hz	Operations		1000
Current heat loss per pole at I_u		W	97
Overload releases			
Temperature compensation for NZM2 to IEC/EN 60947, residual error in the range –25 °C/+70 °C (reference temperature 40 °C)			
Electronic			0
Total opening delay at short–circuit		ms	< 25 415 V; < 35 > 415 V
Terminal capacities			
Standard equipment			Screw terminal
Accessories			Tunnel terminal Connection on rear Strip terminal
Cu conductors, Cu cable			
Tunnel terminal			
Stranded			
4–hole		mm^2	4 × (50 – 240)
Bolt terminal and rear–side connection			
Direct on the switch			
Stranded		mm^2	1 × (120 – 185) 4 × (50 – 185)
Module plate			
Single hole	min.	mm^2	1 × (120 – 300)
Single hole	max.	mm^2	2 × (95 – 300)
Module plate			
Double hole	min.	mm^2	2 × (95 – 185)
Double hole	max.	mm^2	4 × (35 – 185)
Connection width extension		mm^2	4 × 300 6 × (95 – 240)
Al conductors, Cu cable			
Tunnel terminal			
Stranded			
4–hole		mm^2	4 × (50 – 240)
Bolt terminal and rear–side connection			
Module plate			

Single hole	min.	mm^2	1 × (185 – 240)
Single hole	max.	mm^2	2 × (70 – 185)
Module plate			
Double hole		mm^2	4 × 50
Connection width extension		mm^2	2 × 240 6 × (70 – 240)
Cu strip (number of segments x width x segment thickness)			
Flat conductor terminal			
	min.	mm	6 × 16 × 0.8
	max.	mm	(2 ×) 10 × 32 × 1.0
Module plate			
Single hole		mm^2	(2 ×) 10 × 50 × 1.0
Bolt terminal and rear–side connection			
Flat copper strip, with holes	min.	mm	(2 ×) 10 × 50 × 1.0
Flat copper strip, with holes	max.	mm	(2 ×) 10 × 50 × 1.0
Connection width extension		mm^2	(2 ×) 10 × 80 × 1.0
Copper busbar (width × thickness)			
Bolt terminal and rear–side connection			
Screw connection			M10
Direct on the switch			
	min.	mm^2	25 × 5
	max.	mm^2	2 × (50 × 10)
Module plate			
Single hole	min.	mm^2	25 × 5
Single hole	max.	mm^2	2 × (50 × 10)
Module plate			
Double hole		mm^2	2 × (50 × 10)
Connection width extension			
Connection width extension	min.	mm^2	60 × 10
Connection width extension	max.	mm^2	2 × (80 × 10)
Dimensions			
			Arcing chamber, minimum clearing to neighbouring parts 100 mm
Explaination			Systems, cable, selectivity and generator protection
Explaination			I^2t = constant

Mounting position

Vertical and 90° in all directions



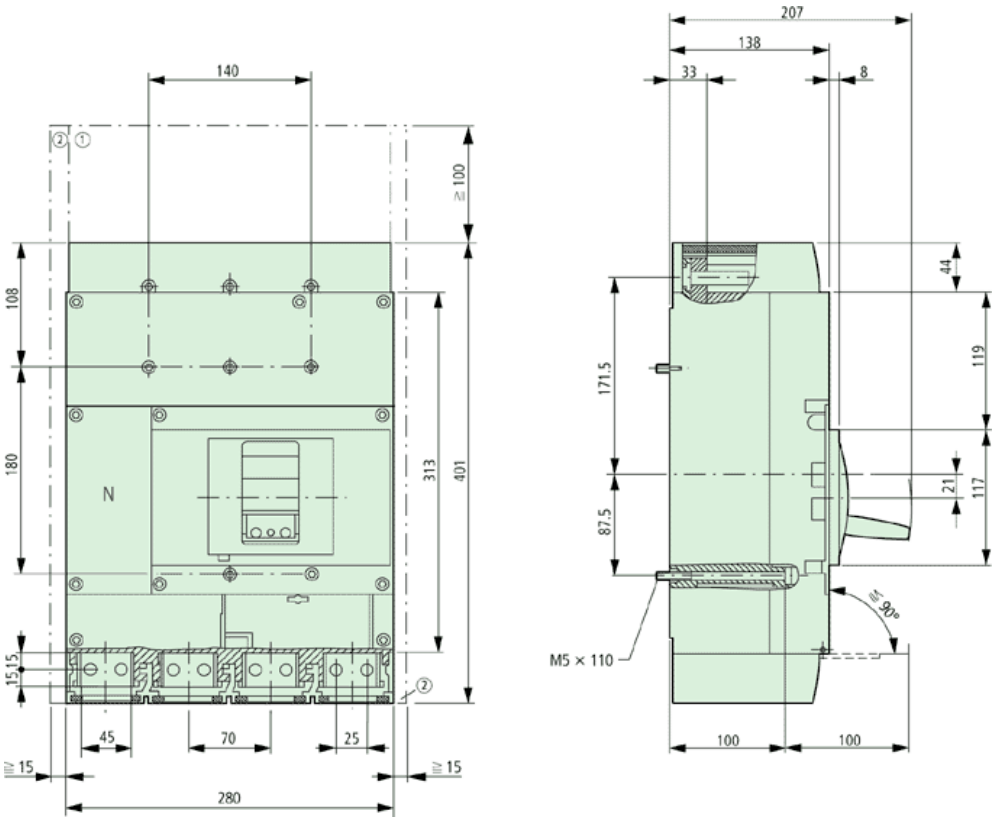
With plug−in adapter NZM2: vertical, 90° right/left

With withdrawable unit NZM3: vertical, 90° left NZM4: verticalwith remote operator: NZM2, NZM3, NZM4: vertical and 90° in all directions

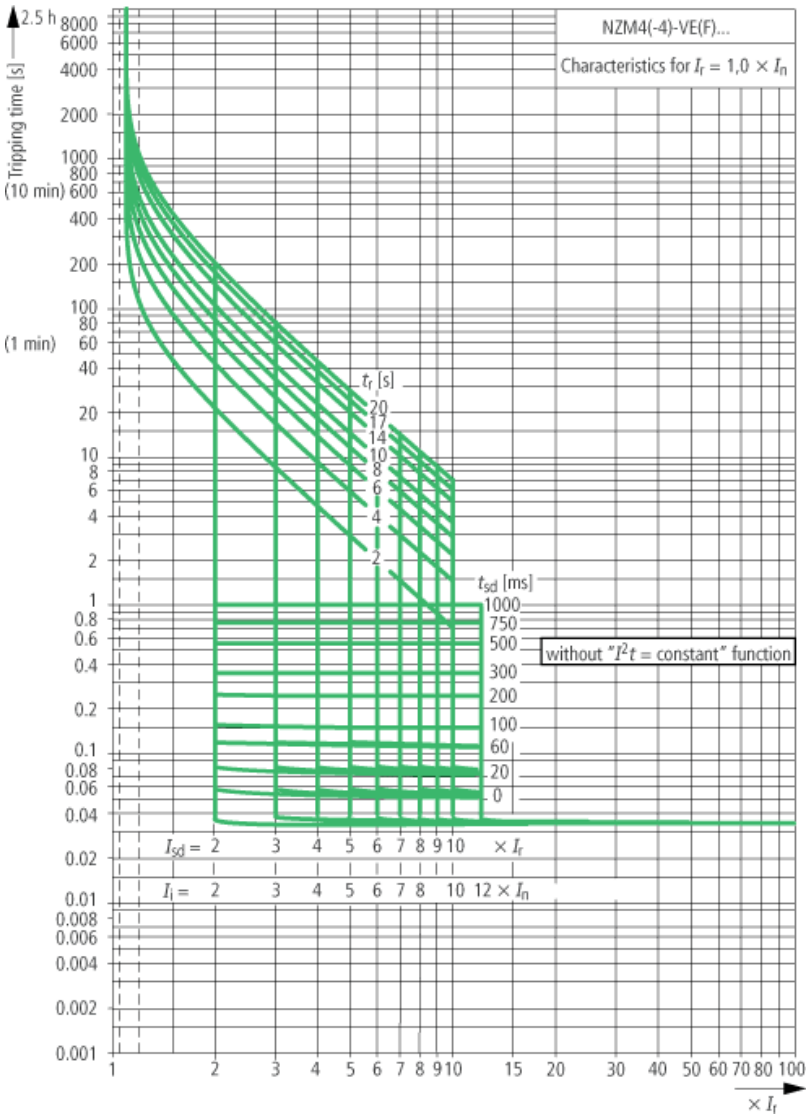
Overview

Basic equipment				
Box terminal	●	–	–	–
Screw connection	–	●	●	●
Accessories				
Box terminal	–	●	●	–
Screw connection	●	–	–	●
Tunnel terminal	●	●	●	●
Connection on rear	●	●	●	●
Flat conductor terminal	–	–	–	●

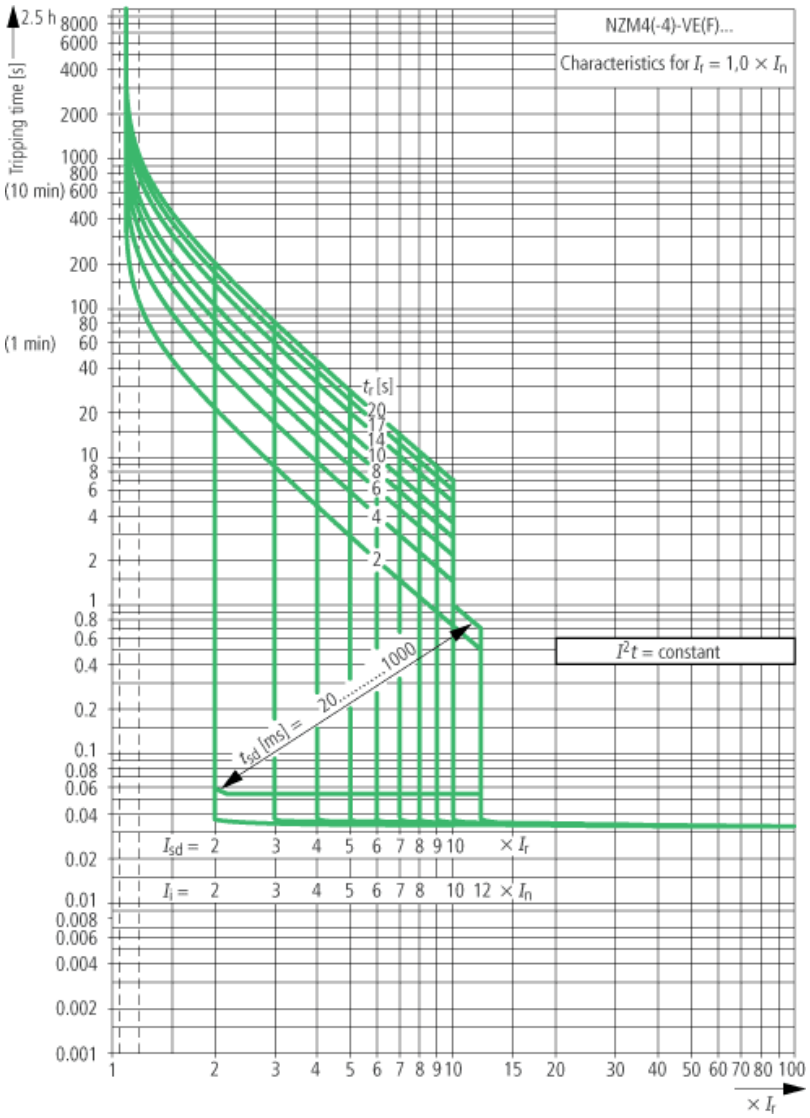
Dimensions



Characteristic curve



Characteristic curve



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