MOELLER

Type: **NZMN2–ME90**
Article No.: **265778**



Ordering information			
Description			Terminal screws standard, terminals as accessories
Rated current = rated uninterrupted current	I_u	A	90
Setting range			
Overload releases	I_r	A	45 – 90
Short–circuit releases Non–delayed		A	90 – 1260
Motor rating AC–3 at 400 V 50/60 Hz	P	kW	45
Rated operational current AC–3 at 400 V 50/60 Hz	I_e	A	81
Switching capacity Switching capacity		kA	50
Release system			Electronic release
Pole			3

Notes concerning the product group

IEC/EN 60947–2 and IEC/EN 60947–4–1

Circuit–breakers fulfil all the demands of utilization category AC–3.

Adjustable overload release I_r

- 0.5 – 1 × I_n (ex–factory0.8 × I_n)

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)

Phase–failure sensitivity

Adjustable short–circuit release I_i

- 2 – 14 × I_r (ex–factory 12 × I_r)

For limiter switching capacity with NZML4–ME... the following applies: 85 kA

Notes concerning the product group

Notes for terminals → 262240

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	20 (half–sinusoidal shock 20 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	2,345
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			

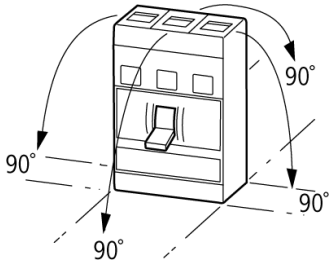
			Tunnel terminal: IP10 Phase isolator and strip terminal: IP00
Circuit–breakers			
Rated impulse withstand voltage U_{imp}			
Main contacts		V	8000
Auxiliary contacts		V	6000
Rated operational voltage	U_e	V AC	690
Overvoltage category/pollution degree			III/3
Rated insulation voltage	U_i	V	1000
Switching capacity			
Rated short–circuit making capacity			
240 V	I_{cm}	kA	187
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	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
I_{cu} to IEC/EN 60947 operating sequence O–t–CO–t–CO			
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	10
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	35
600 V 60 Hz		kA	25

Utilization category to IEC/EN 60947–2			A
Rated short–time withstand current			
t = 0.3 s	I_{cw}	kA	1,9
t = 1 s	I_{cw}	kA	1,9
Lifespan, mechanical	Operations		20000
Maximum operating frequency			
Max. operating frequency		Ops/h	120
Lifespan, electrical			
AC–1			
400/415 V 50/60 Hz	Operations		10000
690 V 50/60 Hz	Operations		7500
AC––3			
400/415 V 50/60 Hz	Operations		6500
690 V 50/60 Hz	Operations		5000
Current heat loss per pole at I_u		W	19
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	< 10
Terminal capacities			
Standard equipment			Screw terminal
Accessories			Box terminal Tunnel terminal Connection on rear
Cu conductors, Cu cable			
Box terminal			
Solid		mm^2	1 × (4 – 16) 2 × (4 – 16)
Stranded		mm^2	1 × (25 – 185) 2 × (25 – 70)
Tunnel terminal			
Solid		mm^2	1 × (16 – 185)
Stranded			
Single hole		mm^2	1 × (25 – 185)
Bolt terminal and rear–side connection			
Direct on the switch			

Solid		mm^2	1 × (4 – 16) 2 × (4 – 16)
Stranded		mm^2	1 × (25 – 185) 2 × (25 – 70)
Al conductors, Cu cable			
Tunnel terminal			
Solid		mm^2	1 × 16
Stranded			
Single hole		mm^2	1 × (25 – 185) je nach Kabelhersteller bis zu 240 mm^2 anschließbar
Bolt terminal and rear–side connection			
Direct on the switch			
Solid		mm^2	1 × (10 – 16) 2 × (10 – 16)
Stranded		mm^2	1 × (25 – 50) 2 × (25 – 50)
Cu strip (number of segments x width x segment thickness)			
Box terminal			
	min.	mm^2	2 × 9 × 0.8
	max.	mm^2	10 × 16 × 0.8
Bolt terminal and rear–side connection			
Flat copper strip, with holes	min.	mm	2 × 16 × 0.8
Flat copper strip, with holes	max.	mm	10 × 16 × 0.8
Copper busbar (width × thickness)			
Bolt terminal and rear–side connection			
Screw connection			M8
Direct on the switch			
	min.	mm^2	16 × 5
	max.	mm^2	20 × 5
Dimensions			
			Blow out area, minimum clearance to other parts 60 mm
Explaination			Motor protection
Explaination			1 half–shaft

Mounting position

Vertical and 90° in all directions



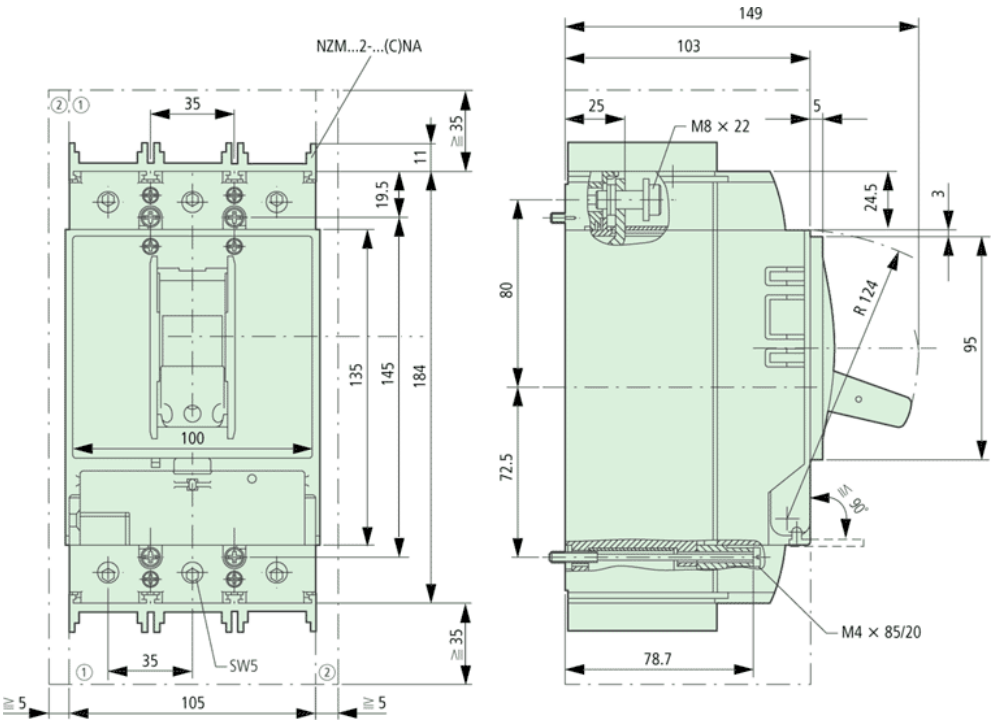
With plug–in adapter NZM2: vertical, 90° right/left

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

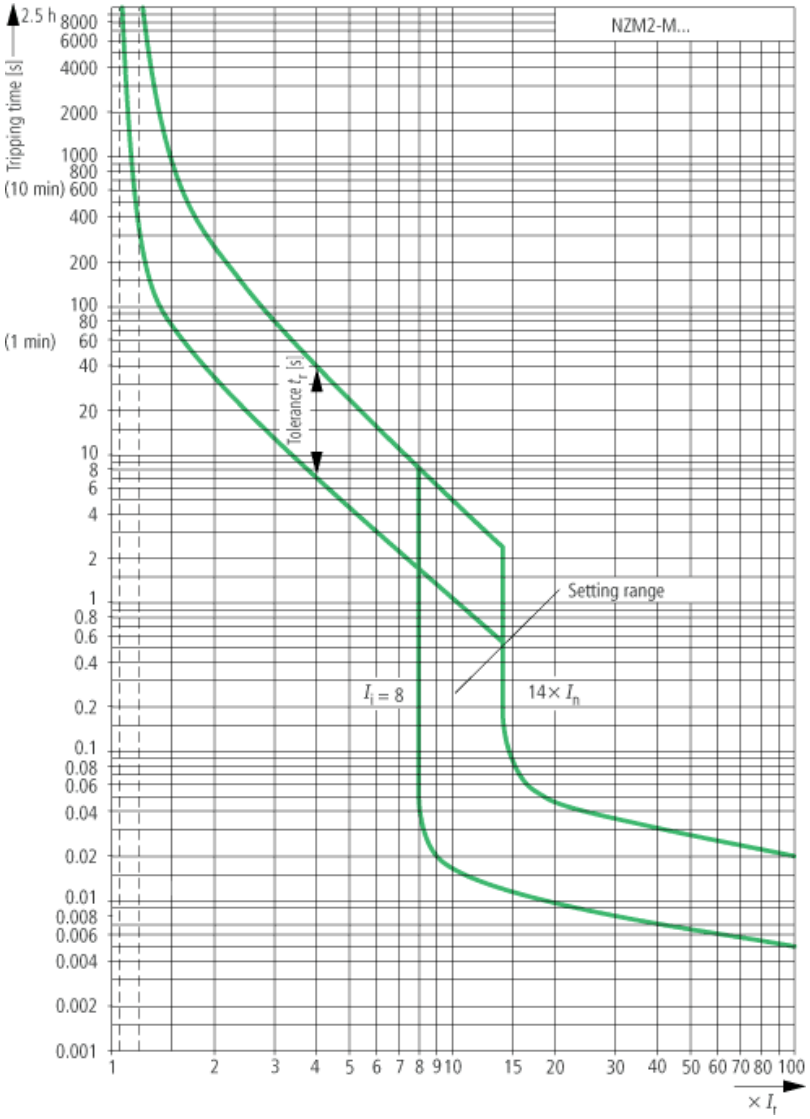
Overview

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

Dimensions



Characteristic curve



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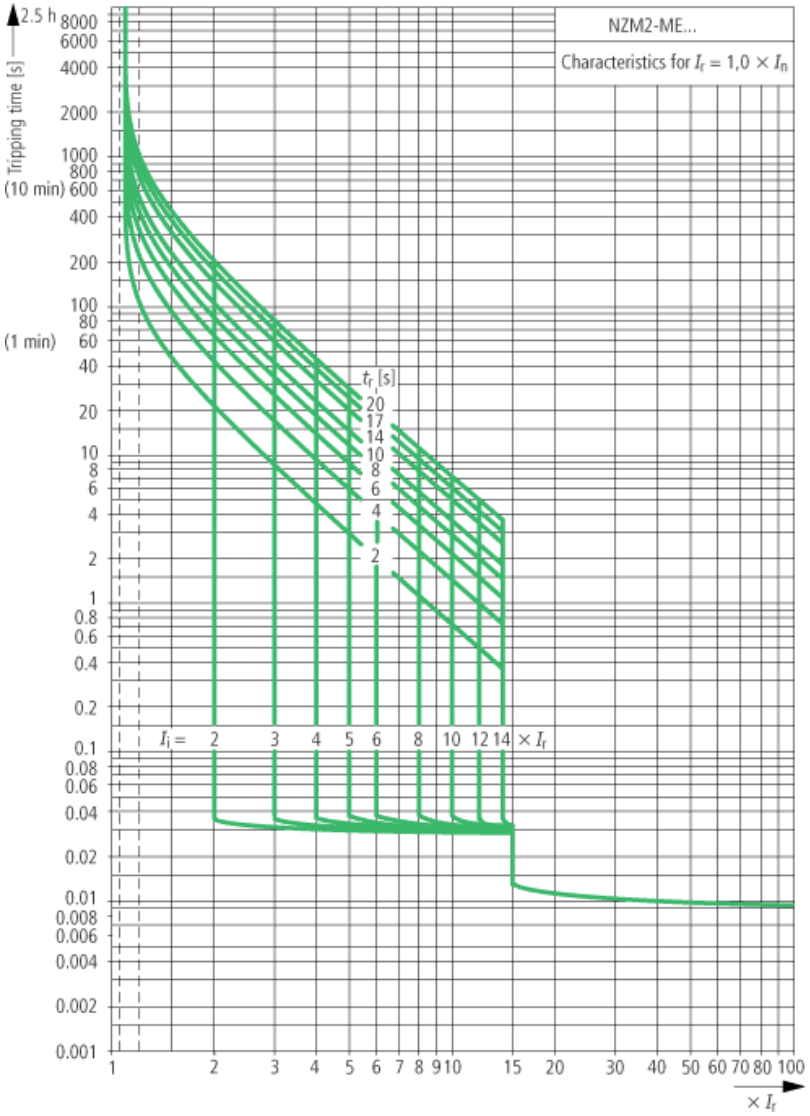

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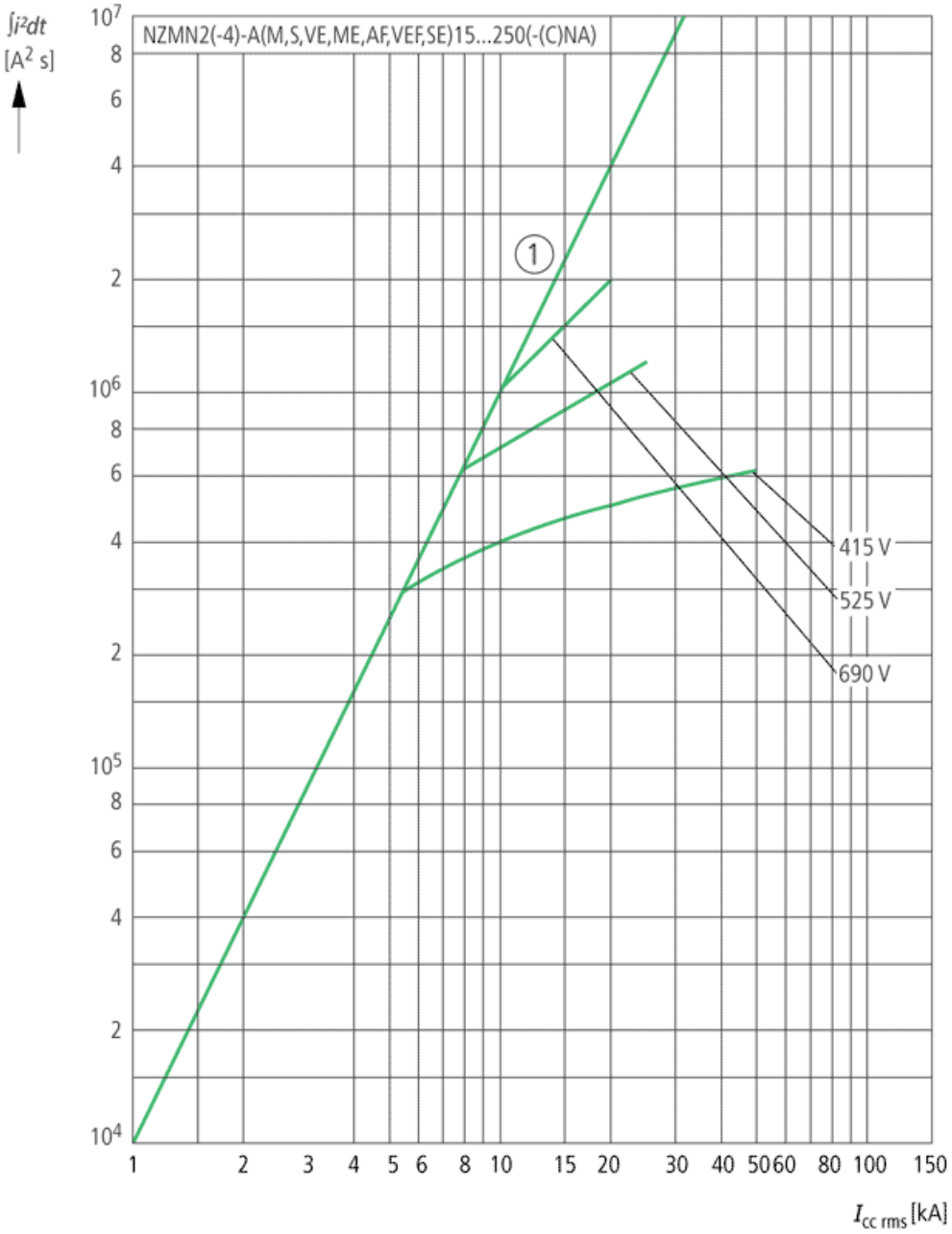

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