MOELLER

Type: **NZMB2–M200**
Article No.: **265717**
Sales text **Circuit–breaker 3p 200A motor protection**



Ordering information			
Number of poles			3–pole
Description			Terminal screws standard, terminals as accessories
Rated current = rated uninterrupted current	I_u	A	200
Setting range			
Overload releases	I_r	A	160...200
Non–delayed short–circuit release		A	1600...2800
Motor rating AC–3 at 400 V 50/60 Hz	P	kW	110
Rated operational current AC–3 at 400 V 50/60 Hz	I_e	A	196
Switching capacity			
Switching capacity		kA	25
Release system			Thermomagnetic release
Frame size			NZM2

Note concerning the product

Adjustable short–circuit releases I_i

- 8 – 12.5 × I_n (ex–factory: 12 × I_n)

Notes concerning the product group

IEC/EN 60947−4−1 and IEC/EN 60947−2

The circuit−breaker fulfills all requirements for AC 3 switching category

Adjustable overload releases I_r

- 0.8 ... 1 × I_n
- (ex−works 0.8 × I_n
-)

− NZM...1−M...: with single phasing sensitivity
− Tripping class 10 A

Adjustable short−circuit releases I_i

- 8 ... 14 × I_n (ex−works 12 × I_n)

− NZMH2−M32: 10 ... 14 × I_n (ex−works 12 × I_n)
− NZM...1−M100: 8 ... 12.5 × I_n (ex−works 12 × I_n)

Fixed short−circuit release I_i

- 350 A at I_n = 20 ... 25 A

Tripping class	**Tripping time *T*p with load on all poles of 7.2 times current setting value**
250 A	2 s < $T_p \leqq$ 10 s
10	2 s < $T_p \leqq$ 10 s
20	6 s < $T_p \leqq$ 20 s
30	9 s < $T_p \leqq$ 30 s

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
Ambient temperature			

Ambient temperature, Storage		°C	... 25...+70
Operation		°C	... 25...+70
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	440
Overvoltage category/pollution degree			III/3
Rated insulation voltage	U_i	V	850
For use in IT electrical power networks		V	440
Switching capacity			
Rated short−circuit making capacity			
240 V	I_{cm}	kA	63
400/415 V	I_{cm}	kA	53
440 V	I_{cm}	kA	53

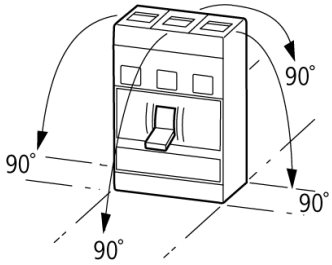
Rated short−circuit breaking capacity I_{cn}			
I_{cu} to IEC/EN 60947 operating sequence O−t−CO			
240 V 50/60 Hz	I_{cu}	kA	30
400/415 V 50/60 Hz	I_{cu}	kA	25
415 V AC	I_{cu}	kA	25
440 V 50/60 Hz	I_{cu}	kA	25
I_{cu} to IEC/EN 60947 operating sequence O−t−CO−t−CO			
240 V 50/60 Hz	I_{cs}	kA	30
400/415 V 50/60 Hz	I_{cs}	kA	25
415 V AC	I_{cs}	kA	25
up to 440 V 50/60 Hz	I_{cs}	kA	18,5
Maximum low−voltage h.b.c. fuse		A gG/gL	355
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	35
480V 60Hz		kA	25
600 V 60 Hz		kA	18
Utilization category to IEC/EN 60947−2			A
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
415 V	Operations		10000
AC−−3			
400/415 V 50/60 Hz	Operations		6500
415 V	Operations		6500
Current heat loss per pole at I_u		W	19
Current heat loss (3−pole) at I_u		W	19
Overload releases			
to IEC/EN 60947, VDE 0660			
Temperature compensation to IEC/EN 60947 Residual error in the		%/K	0

range –25 °C/+70 °C (reference temperature 30 °C)			
Temperature compensation			0
Total opening delay at short–circuit		ms	< 10
Terminal capacities			
Standard equipment			Screw terminal
Accessories			Box terminal Tunnel terminal Connection on rear
Rated power of coil			
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
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
Notes			
Notes			For rated operational voltage the following applies: DC voltage values on request For switching capacity of NA switches with NZM...1–...NA the following applies: 480Y/277 V from 60 A For rated operational current AC–3 at NZMB2, NZMN2, NZMH2, NZM4 the following applies: 400 V: max. 650 kW; 600 V: max. 600 kW For switching capacity of NA switches with NZML2 and NZML3 the following applies: current limiting switch to UL489 For overload release temperature compensation NZM2 thermomagnetic the following applies: with NZM1...1–...160: 0.4 For switching capacity of NA switches with NZML4 at 240 V 60 Hz the following applies: please enquire The current heat loss per pole ratings refer to the maximum current rating of the frame size.

Mounting position

Vertical and 90° in all directions



With plug−in adapter NZM2, N(S)2: vertical, 90° right/left

With withdrawable unit NZM3, N(S)3: vertical, 90° left NZM4, N(S)4: vertical with remote operator: NZM2, N(S)2, NZM3, N(S)3, NZM4, N(S)4: vertical and 90° to all directions

with residual current release NZM2: vertical and 90° to all directions

Overview

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

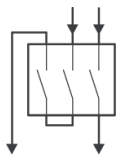
Notes

For rated operational voltage switching on 3 contacts the following applies: DC correction factor for instantaneous release response value NZM1: 1.25, NZM2: 1.35

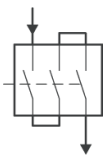
Setting for I_i at DC = setting I_i AC/DC correction factor

Details apply for 3−pole system protection circuit−breaker with thermomagnetic release NZM(H)1(2)−A...

Switching of one pole via two series contacts



Switching of one pole via three series contacts



For NA switch switching capacity with NZM...1−...(C)NA the following applies: 480 Y/277 V from 60 A

For AC−3 rated operational current with NZM4 the following applies: 400 V: max. 650 kW; 690 V: max. 600 kW

For NA switch switching capacity with NZML2 and NZML3 the following applies: Current Limiting switch to UL489

For 3−pole system protection circuit−breaker the AC−3 specification is not applicable

For NA switch switching capacity with NZML4 at 240 V 60 Hz the following applies: on request

For current heat loss per pole the specification refers to the maximum nominal current of the frame size.

For 3−pole system protection circuit−breaker the following applies: 690 V

For 3−pole system protection circuit−breaker the following applies: 400/415 V 7500 switching operations

Maximum back−up fuse, if the expected short−circuit currents at the installation location exceed the switching capacity of the circuit−breaker.

≦ 1600 A

Higher switching capacity on request

Notes

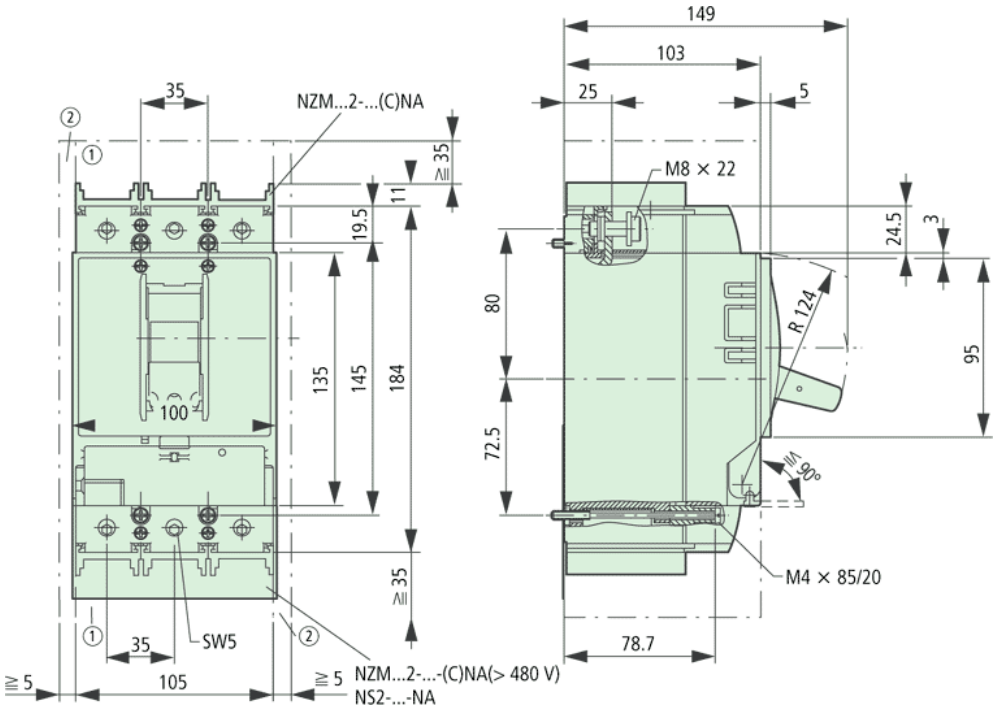
XSV = plug−in unit

XAV = withdrawable unit

TM = thermomagnetic

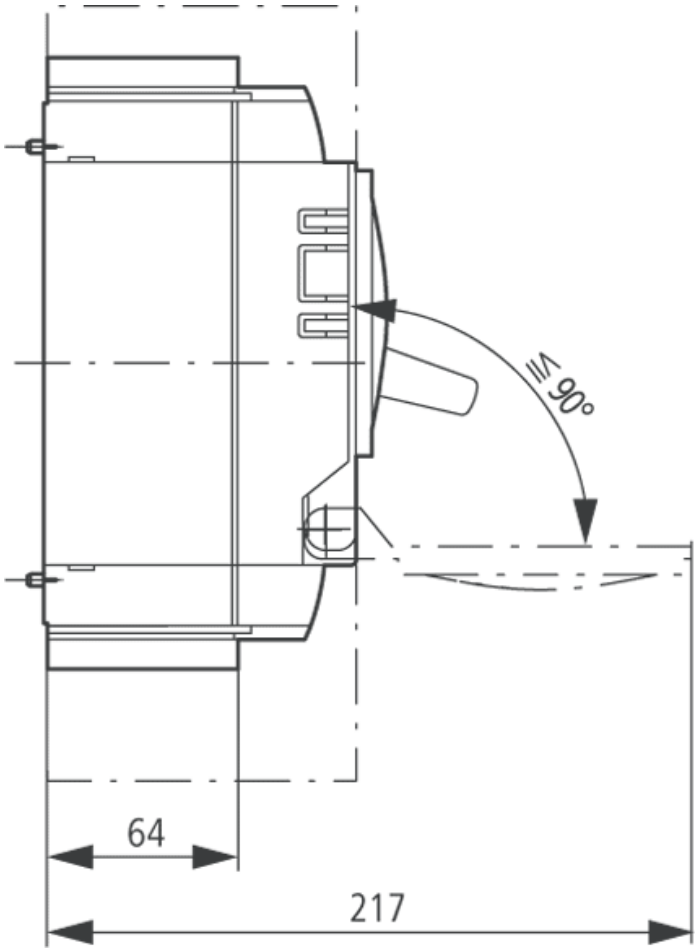
E = electronic

Dimensions

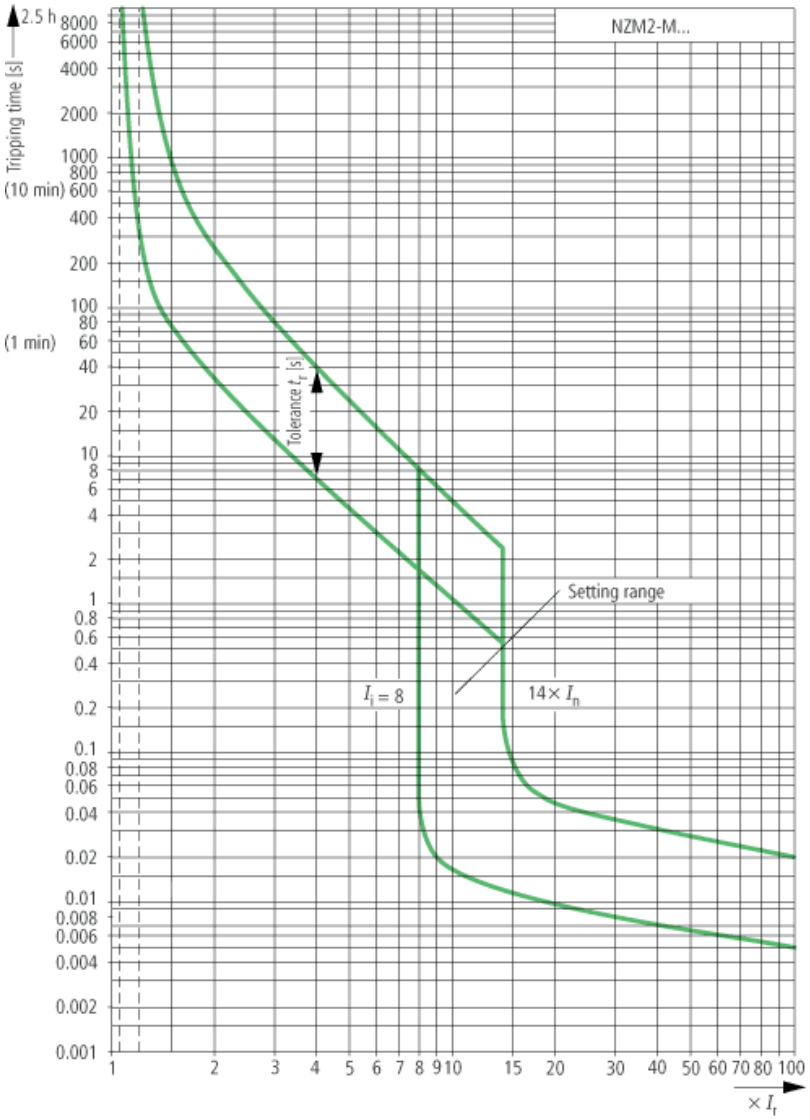


Blow out area, minimum distance to other parts 35 mm
Minimum distance to adjacent parts 5 mm

Dimensions

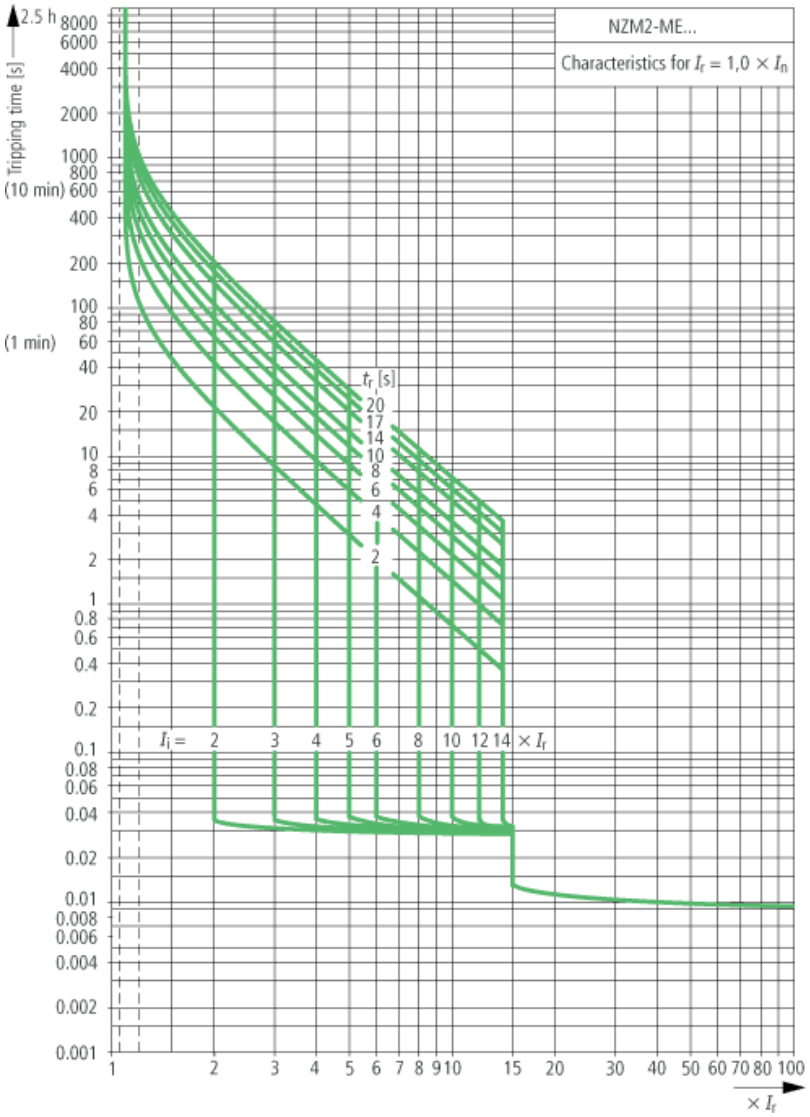


Characteristic curve

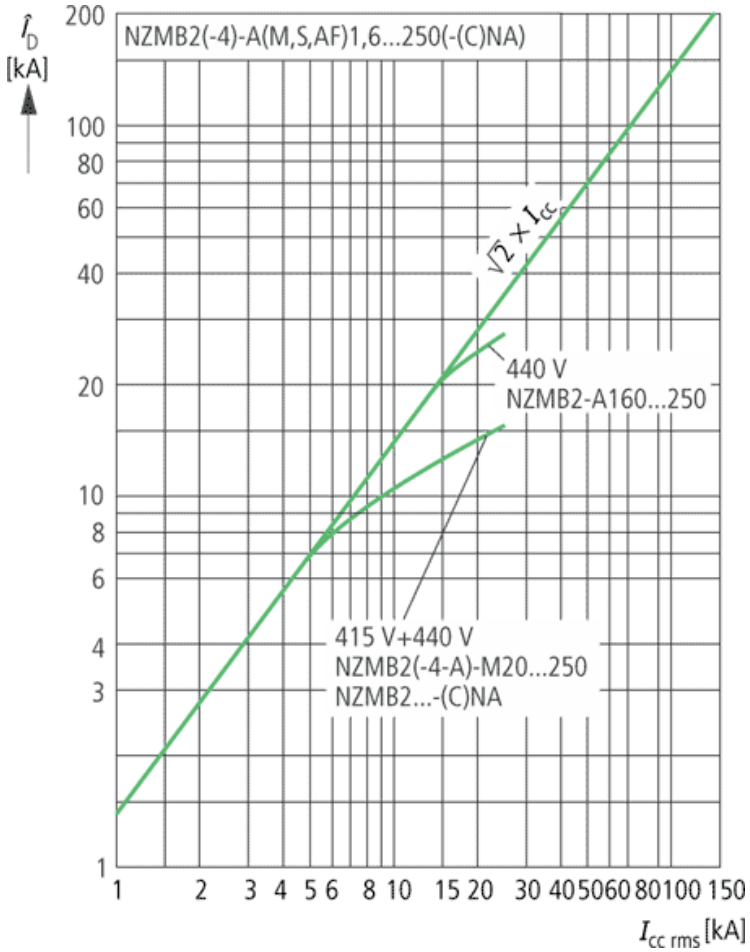


Motor protection with NZM2

Characteristic curve

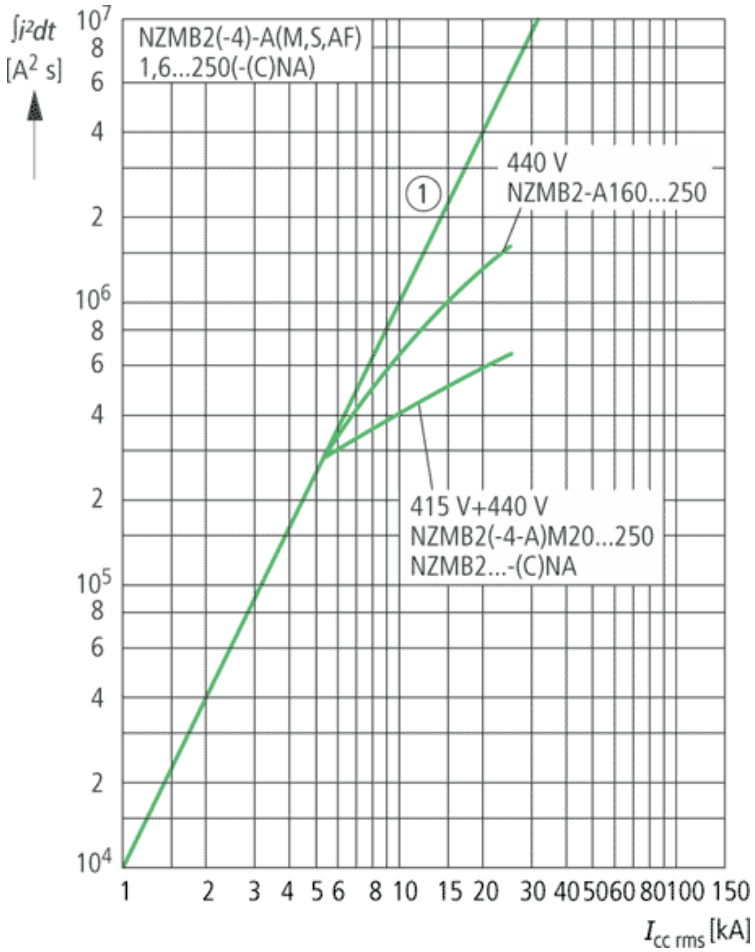


Characteristic curve



Let–through current $\hat{i}_D$
Let–through energy I^2t

Characteristic curve



1 half–shaft

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