MOELLER

Type: **NZMB2–4–A250**
Article No.: **265855**
Sales text **Circuit–breaker 4p 250A**




| Ordering information | | | |
|---|---|---|---|
| Number of poles | | | 4–pole |
| Description | | | Terminal screws standard, terminals as accessories |
| Rated current = rated uninterrupted current | $I_u$ | A | 250 |
| Setting range | | | |
| Main pole | $I_r$ | A | 200...250 |
| Neutral conductor | $I_r$ | A | 200...250 |
| Switching capacity | | | |
| Switching capacity | | kA | 25 |
| Release system | | | Thermomagnetic release |
| Frame size | | | NZM2 |

**Notes concerning the product group**

IEC/EN 60947–2

Adjustable overload releases $I_r$

- 0.8...1 × $I_n$ (ex–works 0.8 × $I_n$)

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

Adjustable short–circuit releases $I_i$

- 6 ... 10 × $I_n$ (ex–works 6 × $I_n$)

Fixed short–circuit release $I_i$

- 350 A at $I_n$ = 20...32 A

NZM...2–4–A...

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

NZM...2–4–A.../60

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

**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<br>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 | 3,5 |
| 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<br>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 | | | |

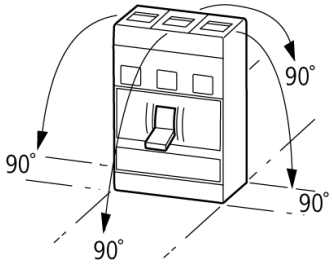
| | | | |
|---|---|---|---|
| switches (UL489, CSA 22.2 No. 5.1) | | | |
| 240 V 60 Hz | | kA | 35 |
| 480V 60Hz | | kA | 25 |
| 600 V 60 Hz | | kA | 18 |
| Utilization category to IEC/EN 60947–2 | | | A |
| Lifespan, mechanical | Operations | | 20000 |
| Maximum operating frequency | | | |
| Max. operating 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 range –25 °C/+70 °C (reference temperature 30 °C) | | %/K | 0 |
| Temperature compensation | | | 0 |
| Frequency range | | ms | < 10 |
| **Terminal capacities** | | | |
| Standard equipment | | | Screw terminal |
| Accessories | | | Box terminal<br>Tunnel terminal<br>Connection on rear |
| Rated power of coil | | | |
| Box terminal | | | |
| Solid | | $mm^2$ | 1 × (4 – 16)<br>2 × (4 – 16) |
| Stranded | | $mm^2$ | 1 × (25 – 185)<br>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)<br>2 × (4 – 16) |
| Stranded | | $mm^2$ | 1 × (25 – 185)<br>2 × (25 – 70) |
| Al conductors, Cu cable | | | |
| Tunnel terminal | | | |
| Solid | | $mm^2$ | 1 × 16 |
| Stranded | | | |
| Single hole | | $mm^2$ | 1 × (25 – 185)<br>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)<br>2 × (10 – 16) |
| Stranded | | $mm^2$ | 1 × (25 – 50)<br>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<br>For rated operational current AC–3 at NZMB2, NZMN2, NZMH2, NZM4 the following applies: 400 V: max. 650 kW; 600 V: max. 600 kW<br>For switching capacity of NA switches with NZML2 and NZML3 the following applies: current limiting switch to UL489<br>For overload release temperature compensation NZM2 thermomagnetic the following applies: with NZM1...1–...160: 0.4<br>For switching capacity of NA switches with NZML4 at 240 V 60 Hz the following applies: please enquire<br>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 | – – – ● |

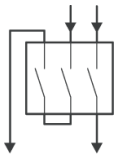
**Notes**

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

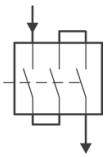
Setting for $I_i$ at DC = setting $I_i$ AC/DC correction factor

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**

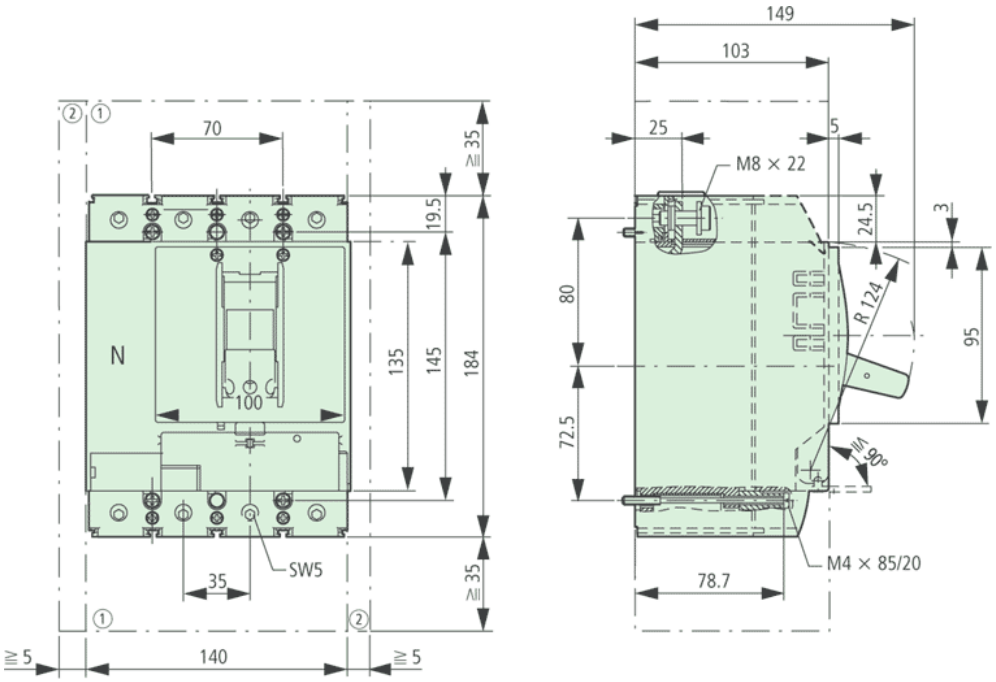
XSV = plug–in unit

XAV = withdrawable unit

TM = thermomagnetic

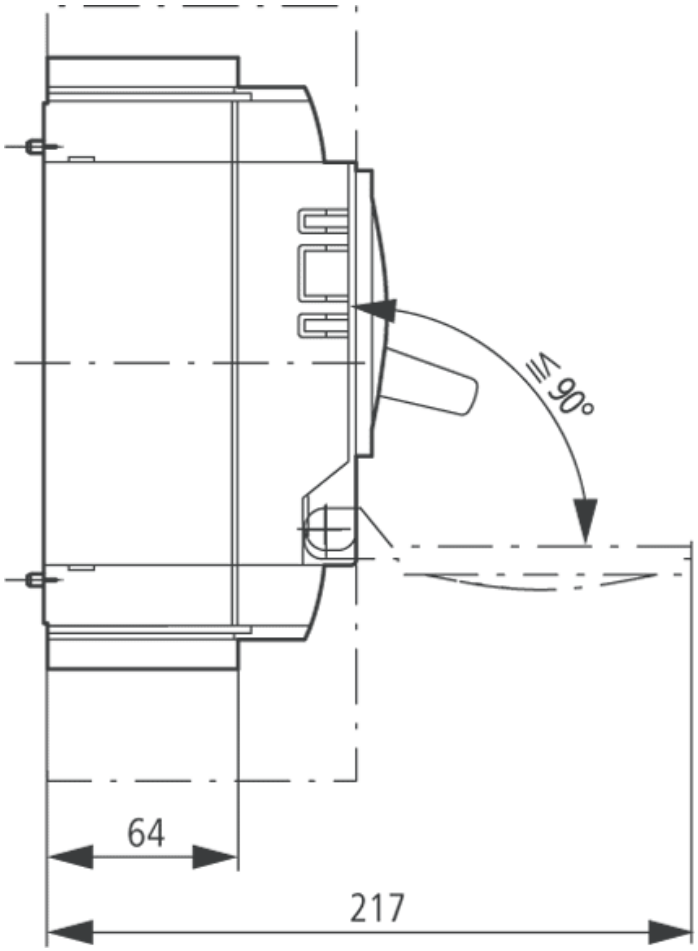
E = electronic

## Dimensions

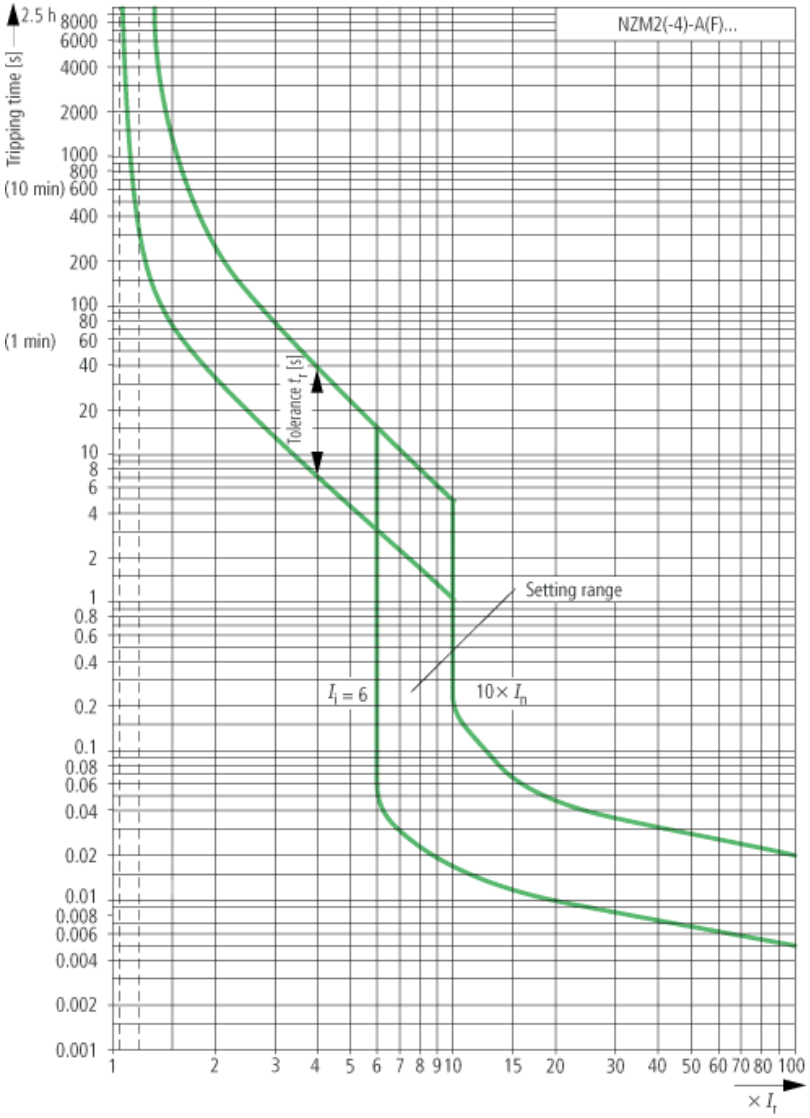



Blow out area, minimum distance to other parts 35 mm
Minimum distance to adjacent parts 5 mm

## Dimensions

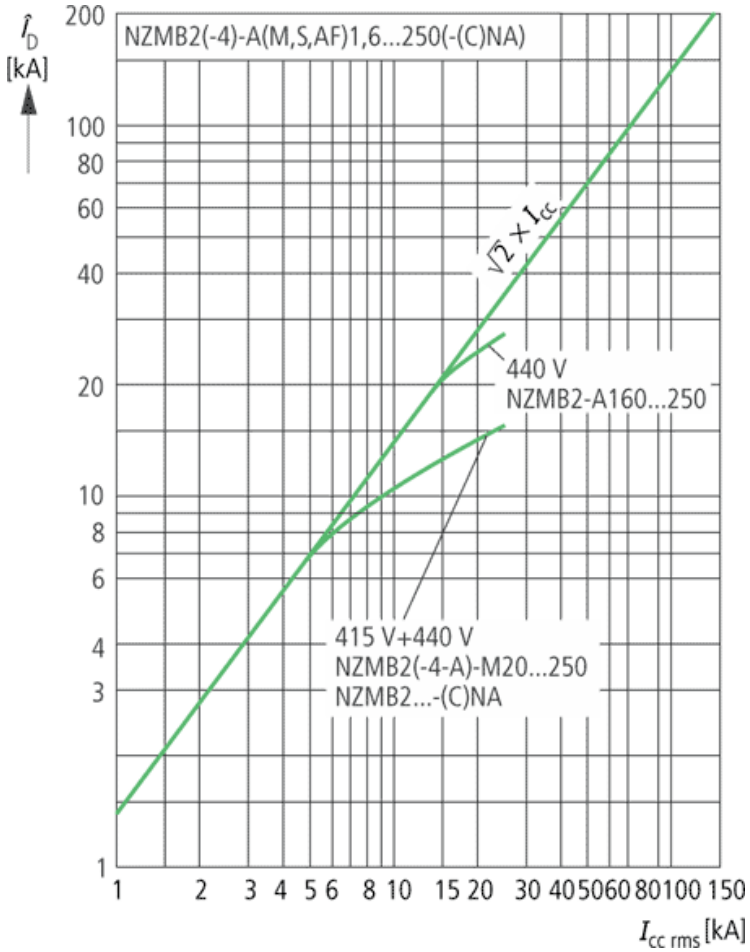



**Characteristic curve**



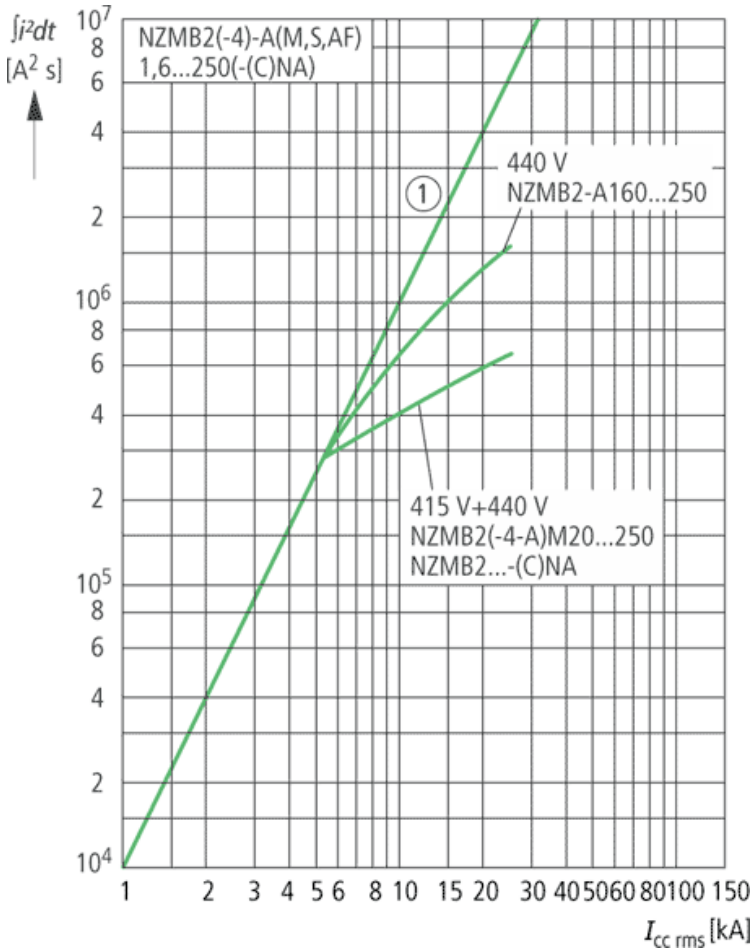



**Characteristic curve**




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

**Characteristic curve**




1 half–shaft

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