Protective Devices
Miniature Circuit Breakers mMCMDC for direct current application

Description

- High-quality miniature circuit breakers for commercial and household applications
- Contact position indicator red - green
- Guide for secure terminal connection
- 3-position DIN rail clip, permits removal from existing busbar system
- Comprehensive range of accessories suitable for subsequent installation
- Rated currents up to 50 A
- Tripping characteristic C
- Rated breaking capacity 10 kA according to IEC/EN 60847-2
- Up to 250 V DC per pole
## Protective Devices

**Miniature Circuit Breakers mMCMDC for direct current application**

<table>
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<tr>
<th>Rated current</th>
<th>Type Designation</th>
<th>Article No.</th>
<th>Units per package</th>
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**Specifications | Miniature Circuit Breakers mMCMDC**

**Description**
- High selectivity between MCB and back-up fuse due to low let-through energy
- Compatible with standard busbar
- Twin-purpose terminal (lift/open-mouthed) above and below
- Busbar positioning optionally above or below
- Meets the requirements of insulation co-ordination, distance between contacts ≥ 4 mm, for secure isolation
- Rated breaking capacity 10 kA according to IEC/EN 60947
- Rated voltage to 250 V (per pole), \( r = 4 \) ms
- Take into account polarity!

**Accessories:**
- Auxiliary switch for subsequent installation: ZP-IHK 288052, ZP-WHK 288053
- Tripping signal switch for subsequent installation: ZP-NHK 248437
- Remote control and automatic switching device: Z-FW/LP 248296
- Shunt trip release: ZP-ASA/- 248438, ZP-ASA/- 248439
- Under-voltage release: Z-USK/- 248288-248291
- Compact enclosure: KLV-TC-2 278240, KLV-TC-4 278241
- Additional terminal 35 mm²: Z-HA-EK/35 263960
- Switching interlock: Z-IS/SPE-1TE 274418

**Technical Data**

**Electrical**
- Design according to IEC/EN 60947-2
- Current test marks as printed onto the device
- Rated voltage DC: 1-2 A types: 220 V (per pole) 3-50 A types: 250 V (per pole)
- Rated frequency: 50/60 Hz
- Rated breaking capacity according to IEC/EN 60947-2: 10 kA
- Characteristic: C
- Back-up fuse: max. 100 A gL
- Selectivity class: 3
- Rated impulse withstand voltage \( U_{\text{imp}} \): 4 kV (1.2/50 μs)
- Endurance:
  - electrical components: ≥ 4,000 switching operations
  - mechanical components: ≥ 20,000 switching operations
- Line voltage connection: at will (above/below)

**Mechanical**
- Frame size: 45 mm
- Device height: 80 mm
- Device width: 17.5 mm per pole (1MU)
- Mounting: quick fastening with 3 lock-in positions on DIN rail IEC/EN 60715
- Degree of protection: IP20
- Upper and lower terminals: open mouthed/lift terminals
- Terminal protection: finger and hand touch safe, DGUV VS3, EN 50274
- Terminal capacity: 1.25 mm²
- Terminal torque: 2-2.4 Nm
- Busbar thickness: 0.8 - 2 mm
- Mounting: independent of position

Note: not for PV string protection!
Connection diagrams

1-pole 2-pole

Dimensions (mm)

Connection examples

Connection example at 250 V+, 1-pole

Connection example at 500 V+, 2-pole

Tripping characteristic mCMDC

Type C

Let-through Energy mCMDC

Type C, 250 V d.c., \( \tau = 5 \) ms (according to IEC/EN 60947-2)