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RM 50

miniature relays



- Small dimensions
- Switching current up to 10 A / 15 A
- The plastics applied provide for the operation of the relays at high temperature and in chemical environment
- Sealed, for soldering
- Applications: for household equipment, office machines, audio equipment, coffee machines, control devices, etc.
- Recognitions, certifications, directives: RoHS, 

Contact data

| | | |
|--------------------------------|-----|--------------------------|
| Number and type of contacts | | 1 CO, 1 NO |
| Contact material | | AgSnO₂ |
| Rated / max. switching voltage | AC | 240 V / 277 V |
| Min. switching voltage | | 5 V |
| Rated load | AC1 | 10 A / 240 V AC |
| | DC1 | 15 A / 24 V DC |
| Min. switching current | | 15 mA |
| Rated current | | 12 A |
| Max. breaking capacity | AC1 | 3 000 VA |
| Min. breaking capacity | | 0,75 W |
| Contact resistance | | ≤ 100 mΩ |

Coil data

| | | |
|-----------------------------------|----|------------------------------------|
| Rated voltage | DC | 3 ... 48 V |
| Must release voltage | | DC: ≥ 0,05 U _n |
| Operating range of supply voltage | | see Table 1 |
| Rated power consumption | DC | 0,36 W 3 ... 24 V 0,45 W 48 V |

Insulation according to PN-EN 60664-1

| | | | |
|-----------------------------|--|------------|--|
| Dielectric strength | | | |
| • between coil and contacts | | 1 000 V AC | type of insulation: basic |
| • contact clearance | | 500 V AC | type of clearance: micro-disconnection |
| Contact - coil distance | | | |
| • clearance | | ≥ 1,9 mm | |
| • creepage | | ≥ 1,9 mm | |

General data

| | | |
|---|--------------------|--|
| Operating / release time (typical values) | | 10 ms / 5 ms |
| Electrical life (number of cycles) | | |
| • resistive AC1 | 1 200 cycles/hour | > 10 ⁵ 7 A, 250 V AC |
| • resistive AC1 | 1 200 cycles/hour | > 3 x 10 ⁴ 12 A, 250 V AC |
| • resistive DC1 | 1 200 cycles/hour | > 5 x 10 ⁴ 15 A, 24 V DC |
| Mechanical life | 18 000 cycles/hour | > 10 ⁷ |
| Dimensions (L x W x H) | | 19 x 15,4 x 15,5 mm |
| Weight | | 11 g |
| Ambient temperature | • operating | -30...+55 °C |
| Cover protection category | | IP 64 PN-EN 60529 |
| Shock resistance | | 10 g |
| Vibration resistance | | 1,5 mm DA (constant amplitude) 10...55 Hz |
| Solder bath temperature | | max. 235 °C |
| Soldering time | | max. 3,5 s |

The data in bold type pertain to the standard versions of the relays.

RM 50

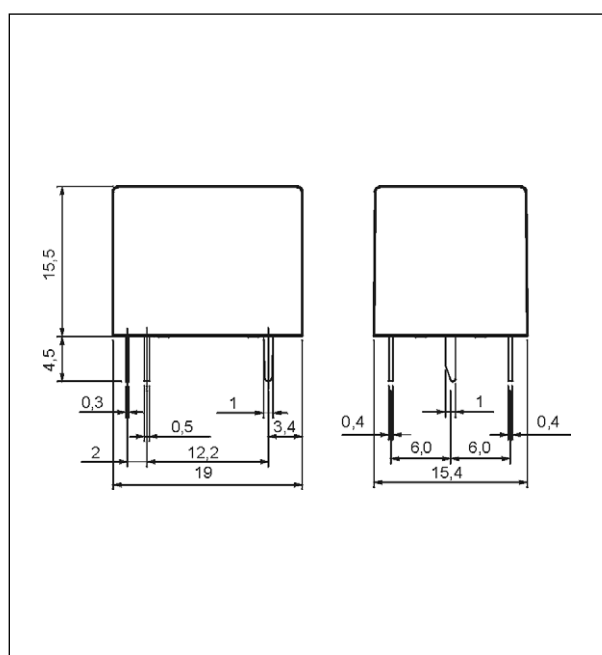
miniature relays

Coil data - DC voltage version

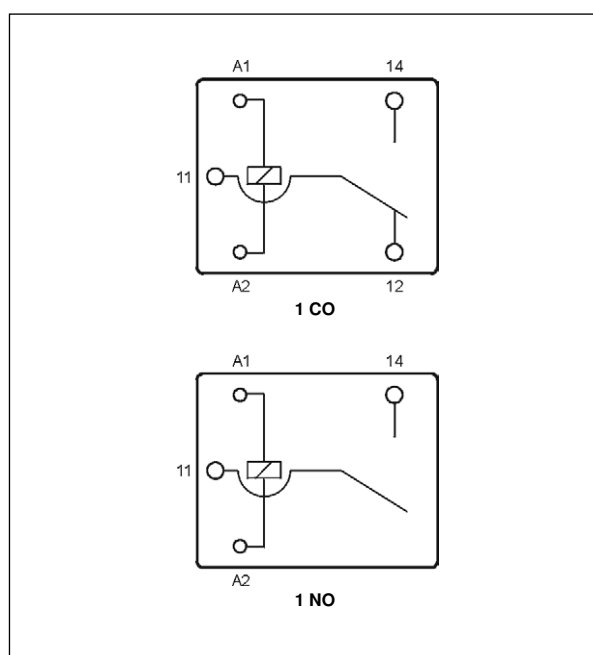
Table 1

| Coil code | Rated voltage V DC | Coil resistance at 20 °C Ω | Acceptable resistance | Coil operating range V DC | |
|-----------|-----------------------|---|--------------------------|------------------------------|-----------------|
| | | | | min. (at 20 °C) | max. (at 20 °C) |
| 1003 | 3 | 25 | $\pm 10\%$ | 2,25 | 3,9 |
| 1005 | 5 | 70 | $\pm 10\%$ | 3,75 | 6,5 |
| 1006 | 6 | 100 | $\pm 10\%$ | 4,50 | 7,8 |
| 1009 | 9 | 225 | $\pm 10\%$ | 6,75 | 11,7 |
| 1012 | 12 | 400 | $\pm 10\%$ | 9,00 | 15,6 |
| 1018 | 18 | 900 | $\pm 10\%$ | 13,50 | 23,4 |
| 1024 | 24 | 1 600 | $\pm 10\%$ | 18,00 | 31,2 |
| 1048 | 48 | 6 400 | $\pm 10\%$ | 38,40 | 62,4 |

Dimensions

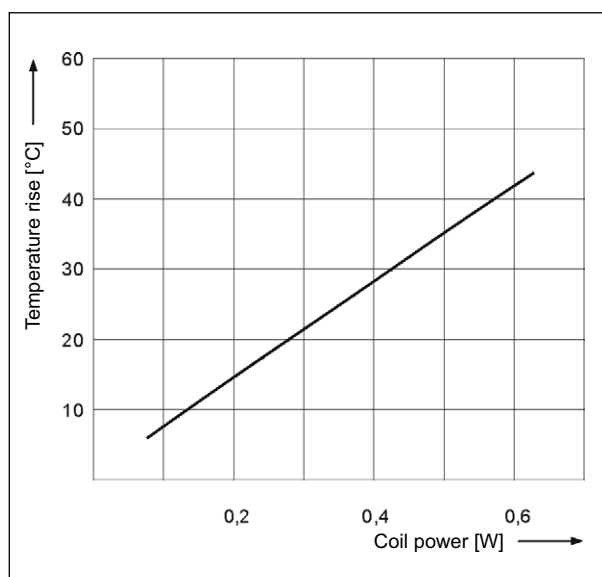


Connection diagrams (pin side view)



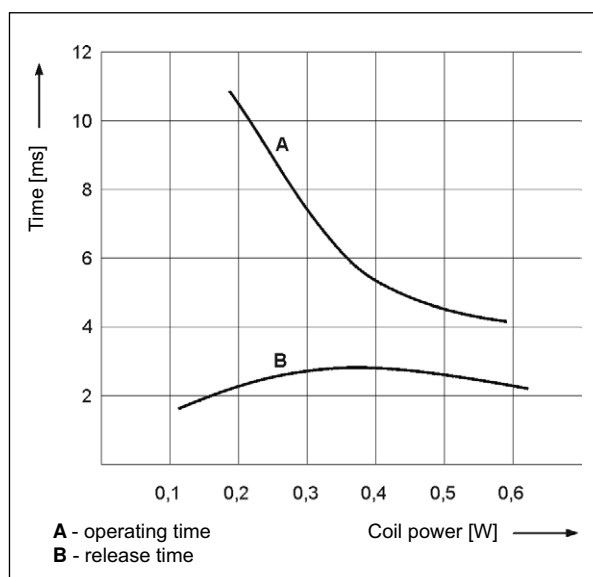
Coil temperature rise

Fig. 1



Operating / release time

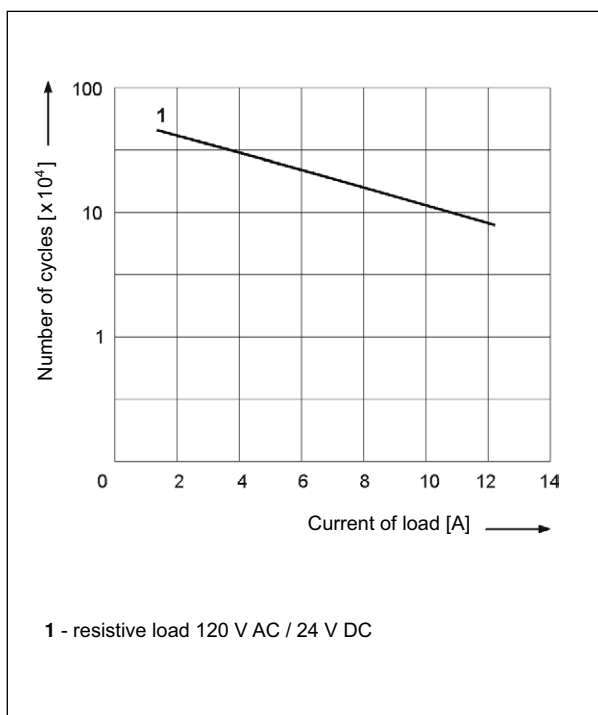
Fig. 2



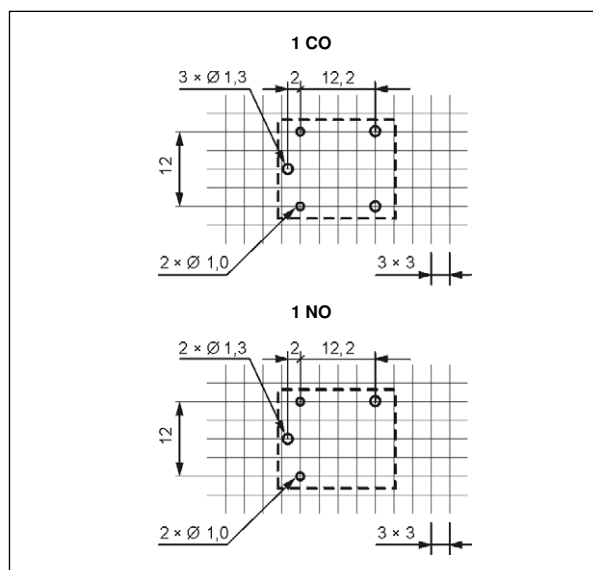
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Electrical life

Fig. 3



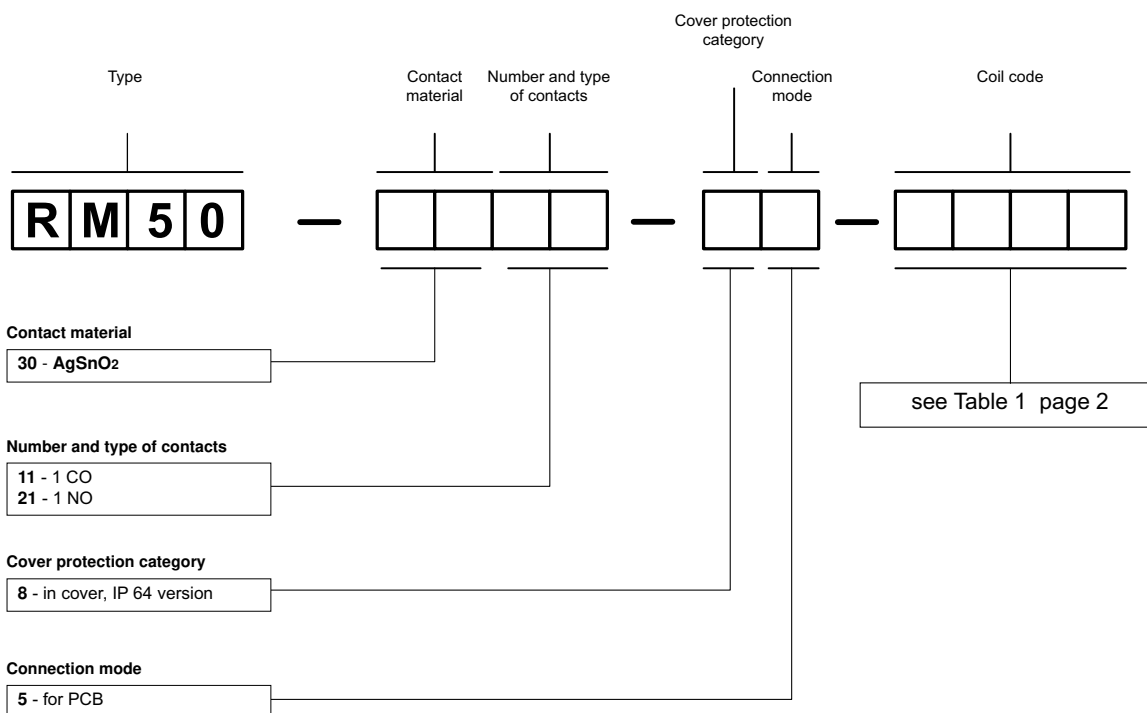
Pinout (solder side view)



Mounting

Relays **RM50** are designed for direct PCB mounting.

Ordering codes



Example of ordering code:

RM50-3011-85-1012

relay **RM50**, for PCB, one changeover contact, contact material AgSnO₂, coil voltage 12 V DC, in cover IP 64

PRECAUTIONS:

1. Ensure that the parameters of the product described in its specification provide a safety margin for the appropriate operation of the device or system and never use the product in circumstances which exceed the parameters of the product. 2. Never touch any live parts of the device. 3. Ensure that the product has been connected correctly. An incorrect connection may cause malfunction, excessive heating or risk of fire. 4. In case of any risk of any serious material loss or death or injuries of humans or animals, the devices or systems shall be designed so to equip them with double safety system to guarantee their reliable operation.