



# RM50N

## miniature relays



- DC coils - of up to 48 V DC, low coil power 0,36 W
- For PCB
- Small dimensions, light weight
- Switching current up to 12 A
- Application: for household electrical appliance, automation control, telecommunication devices, machinery electrical equipment
- Recognitions, certifications, directives: RoHS,  

### Contact data

Number and type of contacts		1 CO, 1 NO
Contact material		<b>AgSnO<sub>2</sub></b> , AgCdO
Rated / max. switching voltage	AC	125 V / 277 V
	DC	110 V / 110 V
Min. switching voltage		5 V
Rated load	AC1	12 A / 125 V AC
	DC1	12 A / 28 V DC
Min. switching current		15 mA
Rated current		12 A
Max. breaking capacity	AC1	1 500 VA
	AC3	250 W      0,33 HP    UL 508 (single-phase motor)
Contact resistance		≤ 100 mΩ

### Coil data

Rated voltage	DC	5 ... 48 V
Must release voltage		DC: ≥ 0,1 U <sub>n</sub>
Operating range of supply voltage		see Table 1
Rated power consumption	DC	0,36 W

### Insulation according to PN-EN 60664-1

Insulation resistance	250 MΩ	500 V DC, 60 s
Dielectric strength	• between coil and contacts	1 500 V AC      type of insulation: basic
	• contact clearance	750 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	1 800 cycles/hour    10 <sup>5</sup> 12 A, 125 V AC
	• resistive DC1	1 800 cycles/hour    10 <sup>5</sup> 12 A, 28 V DC
	Mechanical life	18 000 cycles/hour    10 <sup>7</sup>
Dimensions (L x W x H)		19,5 x 15,6 x 15,3 mm
Weight		9,5 g
Ambient temperature	• operating	-55...+85 °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 s

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

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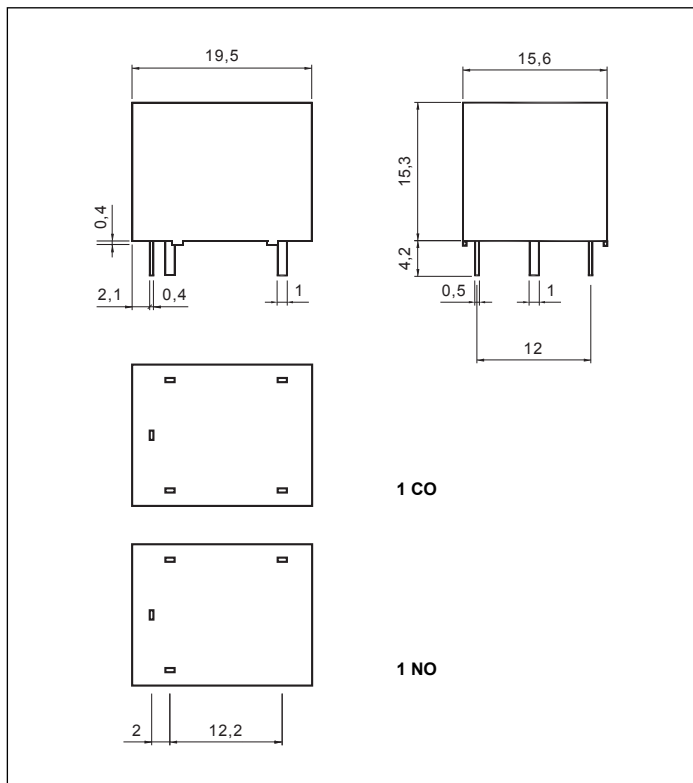
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Coil data - DC voltage version

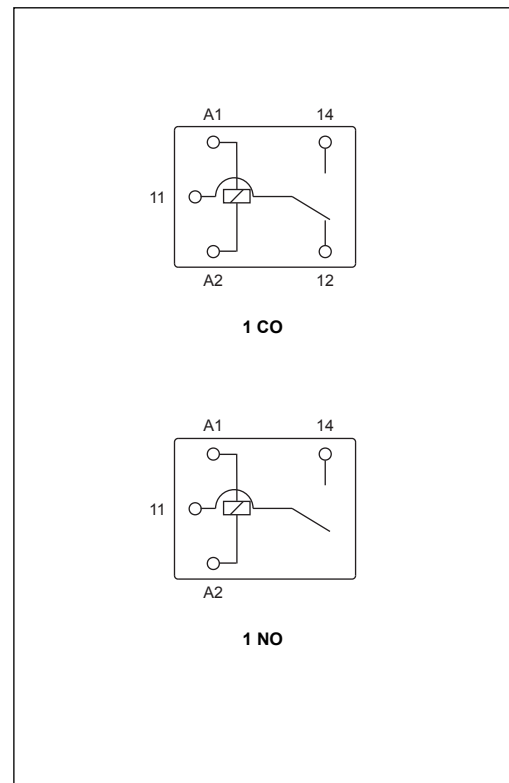
Table 1

Coil code	Rated voltage V DC	Coil resistance at 20 °C $\Omega$	Acceptable resistance	Coil operating range V DC	
				min. (at 20 °C)	max. (at 20 °C)
1005	5	70	$\pm 10\%$	3,75	6,5
1009	9	225	$\pm 10\%$	6,75	11,7
1012	12	400	$\pm 10\%$	9,00	15,6
1024	24	1 600	$\pm 10\%$	18,00	31,2
1048	48	6 400	$\pm 10\%$	36,00	62,4

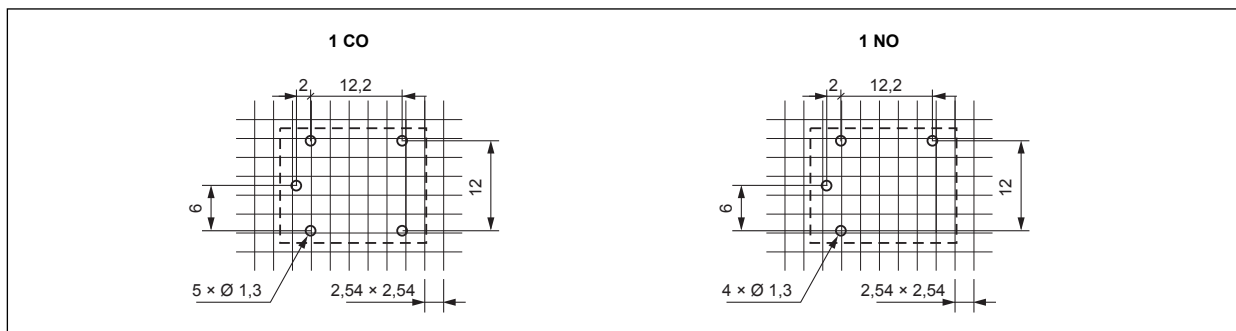
### Dimensions



### Connection diagrams (pin side view)



### Pinout (solder side view)



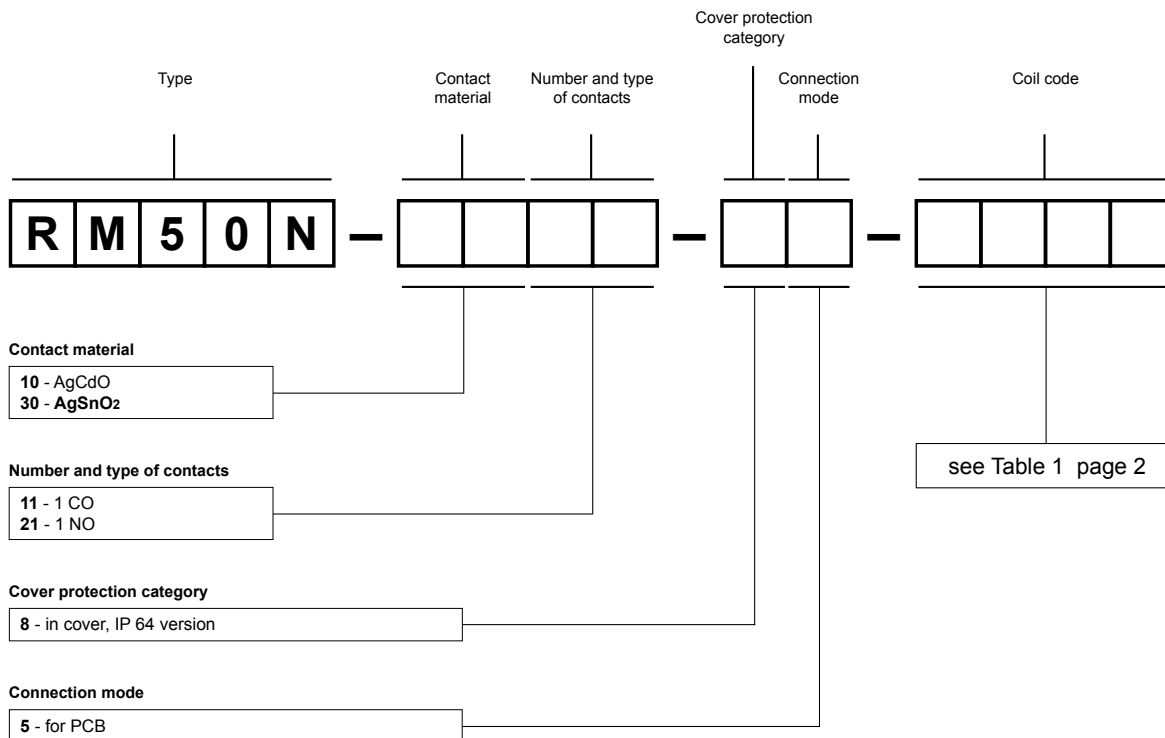
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### Mounting

Relays **RM50N** are designed for direct PCB mounting.

### Ordering codes



Examples of ordering codes:

- RM50N-3011-85-1012** relay **RM50N**, for PCB, one changeover contact, contact material AgSnO<sub>2</sub>, coil voltage 12 V DC, in cover IP 64
- RM50N-1021-85-1024** relay **RM50N**, for PCB, one normally open contact, contact material AgCdO, coil voltage 24 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.