

- DC coils - of up to 48 V DC, insulation class F: 155 °C
- For PCB
- Small dimensions
- High switching capacity
- Applications: for household electrical appliance, automation systems, electronic equipment, instrument and meter, telecommunication devices, remote control facilities
- Recognitions, certifications, directives: RoHS,

Contact data

Number and type of contacts		1 CO, 1 NO	
Contact material		**$AgSnO_2$**	
Rated / max. switching voltage	AC	250 V / 277 V	
Min. switching voltage		5 V	
Rated load	AC1	1 CO: 10 A / 7 A (NO/NC) / 250 V AC	1 NO: 10 A / 250 V AC
		1 CO: 20 A / 20 A (NO/NC) / 125 V AC	1 NO: 20 A / 125 V AC
	DC1	1 CO: 10 A / 7 A (NO/NC) / 30 V DC	1 NO: 10 A / 30 V DC
Min. switching current		15 mA	
Rated current		10 A	
Max. breaking capacity	AC1	3 000 VA	
	AC3	1 CO: 750 W / 375 W (NO/NC)	1 NO: 750 W
		1 CO: 1,0 HP / 0,5 HP (NO/NC) UL 508 (single-phase motor)	1 NO: 1,0 HP UL 508 (single-phase motor)
Contact resistance		≤ 100 mΩ	

Coil data

Rated voltage	DC	5 ... 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

Insulation according to PN-EN 60664-1

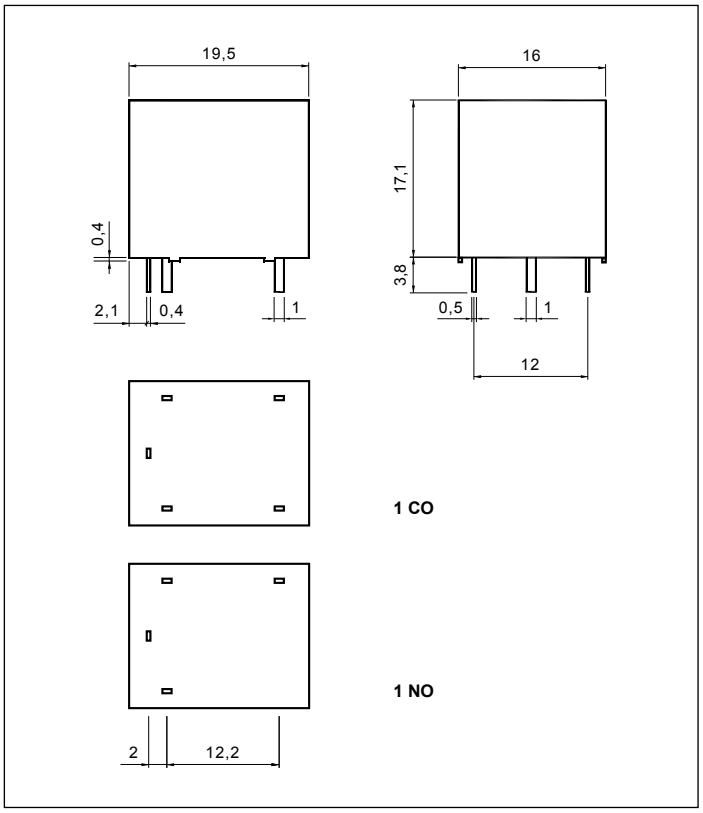
Rated surge voltage	4 000 V 1,2 / 50 µs
Insulation resistance	250 MΩ 500 V DC, 60 s
Dielectric strength	
• between coil and contacts	2 500 V AC type of insulation: basic
• contact clearance	1 000 V AC type of clearance: micro-disconnection
Contact - coil distance	
• clearance	≥ 1,9 mm
• creepage	≥ 1,9 mm

General data

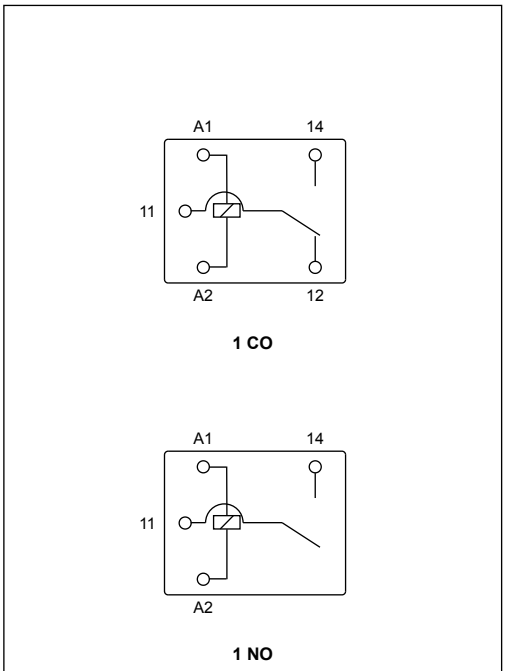
Operating / release time (typical values)		15 ms / 10 ms	
Electrical life (number of cycles)			
• resistive AC1	1 800 cycles/hour	10^5 1 CO: 10 A / 7 A (NO/NC), 250 V AC	1 NO: 10 A, 250 V AC
• resistive DC1	1 800 cycles/hour	10^5 1 CO: 10 A / 7 A (NO/NC), 30 V DC	1 NO: 10 A, 30 V DC
Mechanical life	18 000 cycles/hour	10^7	
Dimensions (L x W x H)		19,5 x 16 x 17,1 mm	
Weight		10 g	
Ambient temperature	• operating	-40...+85 °C	
Cover protection category		IP 64 PN-EN 60529	
Shock resistance		10 g	
Vibration resistance		1,0 mm DA (constant amplitude) 10...55 Hz	
Solder bath temperature		max. 235 °C	
Soldering time		max. 3 s	

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

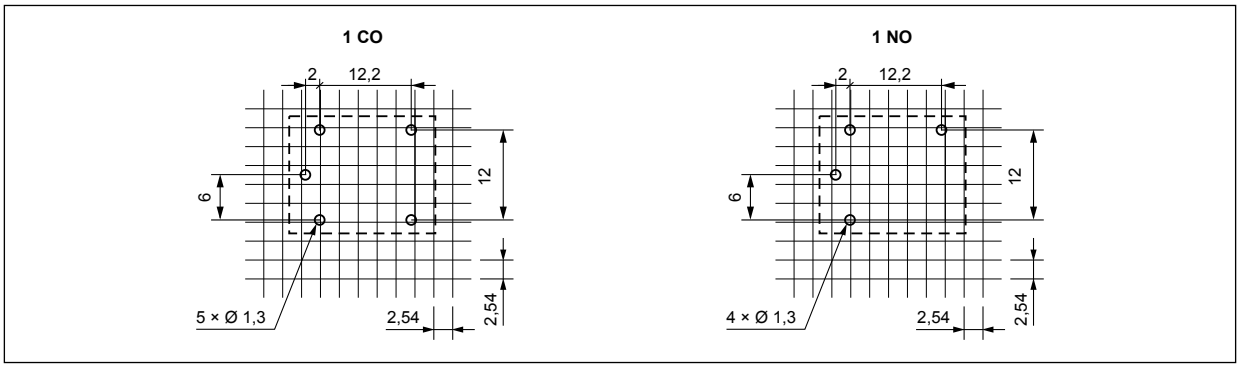
Dimensions



Connection diagrams (pin side view)



Pinout (solder side view)



Mounting

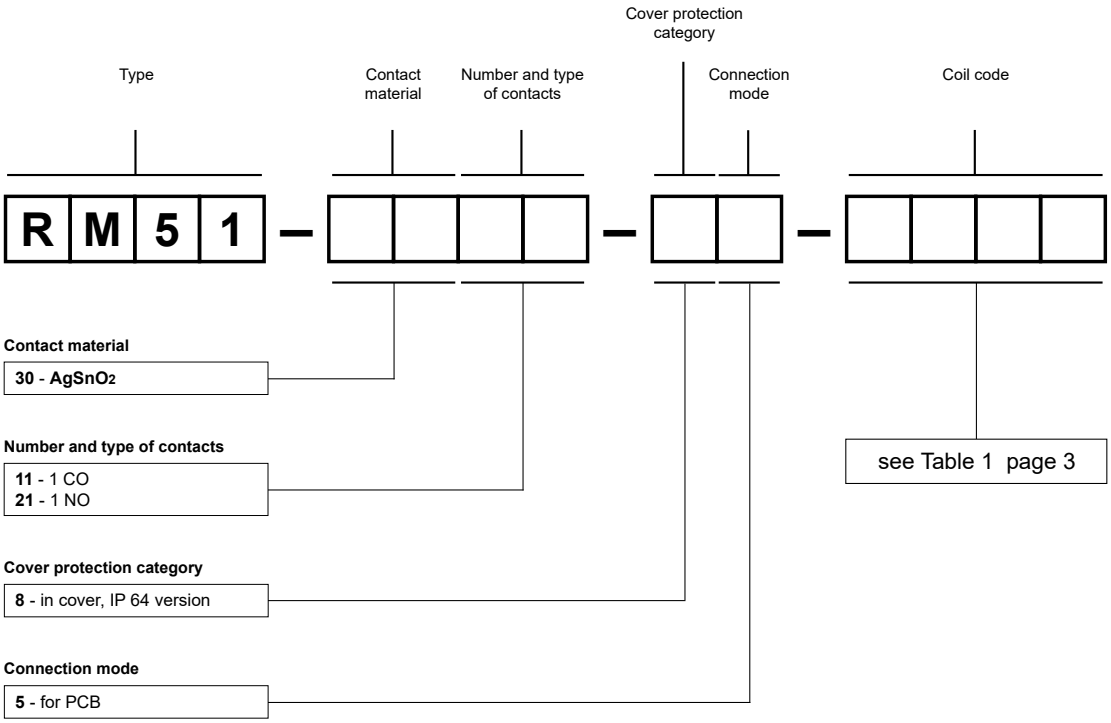
Relays **RM51** are designed for direct PCB mounting.

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)
1005	5	69	± 10%	3,75	6,5
1009	9	225	± 10%	6,75	11,7
1012	12	400	± 10%	9,00	15,6
1024	24	1 600	± 10%	18,00	31,2
1048	48	6 400	± 10%	36,00	62,4

Ordering codes



Examples of ordering codes:

RM51-3011-85-1012 relay **RM51**, for PCB, one changeover contact, contact material $AgSnO_2$, coil voltage 12 V DC, in cover IP 64

RM51-3021-85-1048 relay **RM51**, for PCB, one normally open contact, contact material $AgSnO_2$, coil voltage 48 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.