



# RM51

## miniature relays



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

### Contact data

Number and type of contacts		1 CO, 1 NO	
Contact material		<b>AgSnO<sub>2</sub></b>	
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 CO: 20 A / 20 A (NO/NC) / 125 V AC	1 NO: 10 A / 250 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 CO: 1,0 HP / 0,5 HP (NO/NC) UL 508 (single-phase motor)	1 NO: 750 W 1 NO: 1,0 HP UL 508 (single-phase motor)
Contact resistance		≤ 100 mΩ	
<b>Coil data</b>			
Rated voltage	DC	5 ... 48 V	
Must release voltage		DC: ≥ 0,05 U <sub>n</sub>	
Operating range of supply voltage		see Table 1	
Rated power consumption	DC	0,36 W	
<b>Insulation according to PN-EN 60664-1</b>			
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	
<b>General data</b>			
Operating / release time (typical values)		15 ms / 10 ms	
Electrical life (number of cycles)	• resistive AC1 1 800 cycles/hour	10 <sup>5</sup> 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 <sup>5</sup> 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 <sup>7</sup>	
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 pertain to the standard versions of the relays.

# RM51

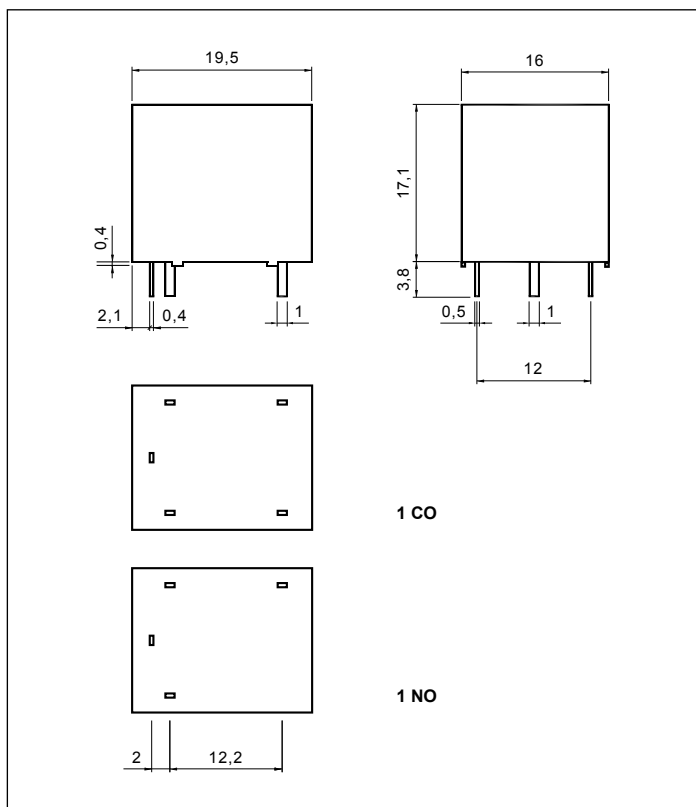
## miniature relays

Coil data - DC voltage version

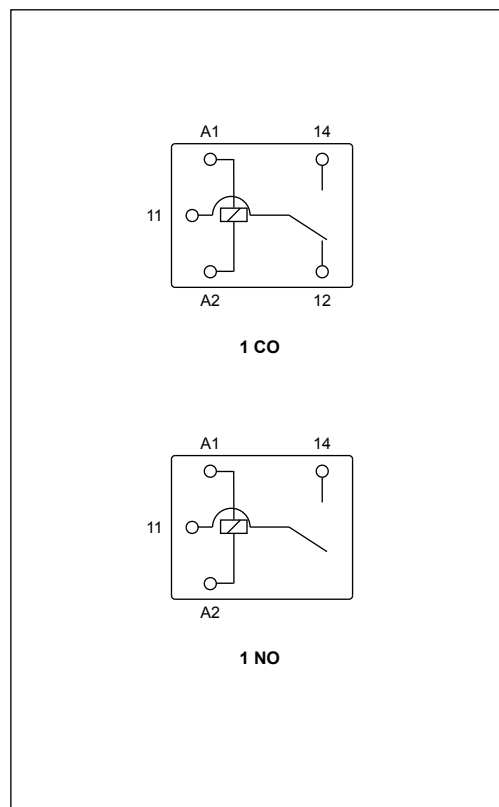
Table 1

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	69	$\pm 10\%$	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

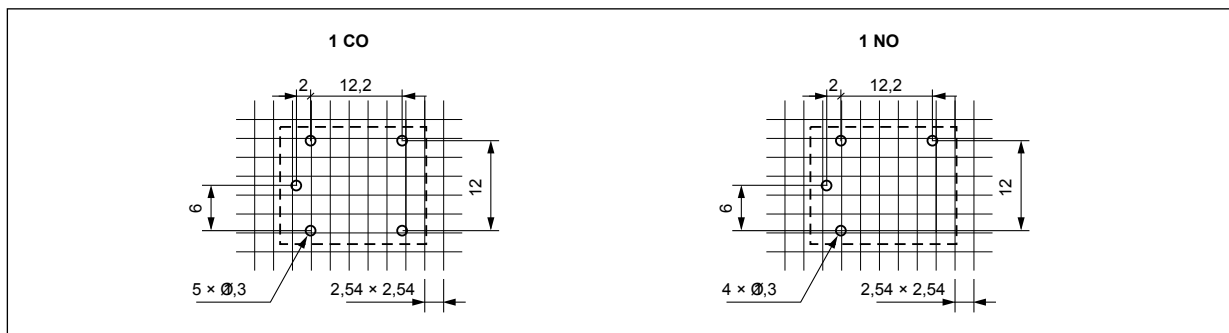
### Dimensions



### Connection diagrams (pin side view)



### Pinout (solder side view)



02.12.2013

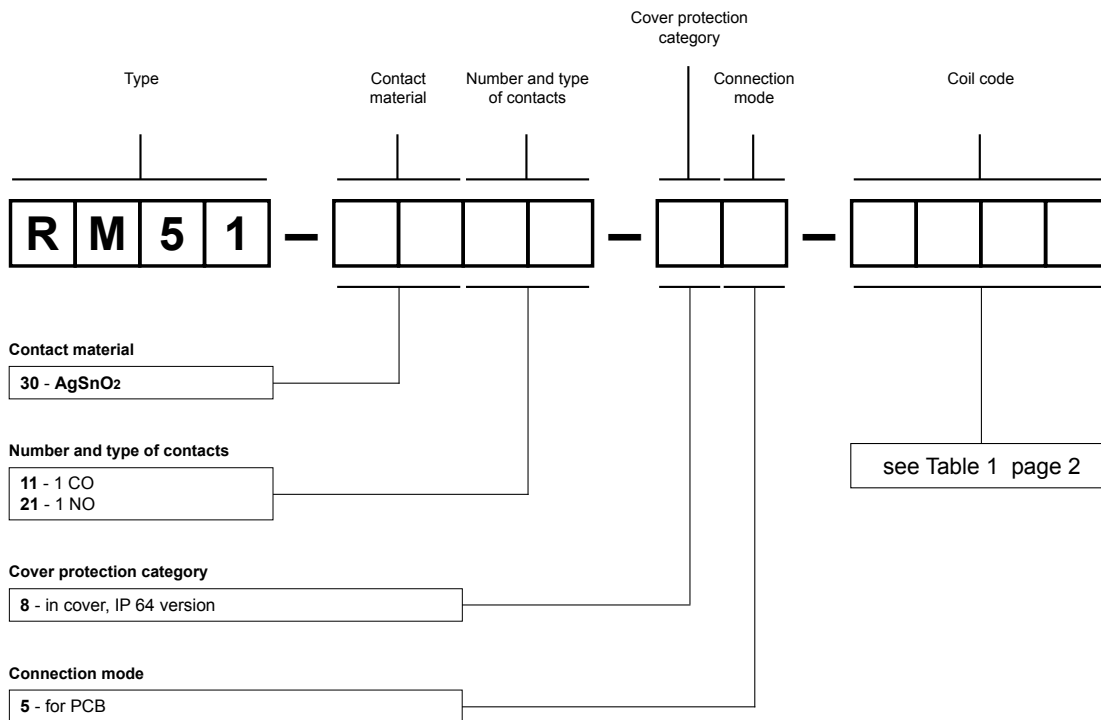
# RM51

## miniature relays

### Mounting

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

### Ordering codes



Examples of ordering codes:

- RM51-3011-85-1012** relay **RM51**, for PCB, one changeover contact, contact material AgSnO<sub>2</sub>, coil voltage 12 V DC, in cover IP 64
- RM51-3021-85-1048** relay **RM51**, for PCB, one normally open contact, contact material AgSnO<sub>2</sub>, 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.

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