


# RM45N

## miniature relays



- DC coils - of up to 24 V DC, low coil power 0,20 W (sensitive version) or 0,45 W (standard version)
- For PCB • Very small dimensions, light weight
- High load up to 10 A / 125 V AC ❶
- Application: for household electrical appliance, automation systems, electrical equipment, instrument and meter, telecommunication devices, remote control facilities, light controllers, etc.
- Recognitions, certifications, directives: RoHS, 

### 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: 5 A / 5 A (NO/NC) / 250 V AC 1 CO: 10 A / 125 V AC ❶	1 NO: 5 A / 250 V AC 1 NO: 10 A / 125 V AC
	DC1	1 CO: 5 A / 5 A (NO/NC) / 28 V DC	1 NO: 5 A / 28 V DC
Rated current		5 A	
Max. breaking capacity	AC1	1 250 VA	
	AC3	186 W	0,25 HP UL 508 (single-phase motor)
Contact resistance		≤ 100 mΩ	
<b>Coil data</b>			
Rated voltage	DC	5 ... 24 V	
Must release voltage		DC: ≥ 0,05 U <sub>n</sub>	
Operating range of supply voltage		see Tables 1, 2	
Rated power consumption	DC	0,20 W sensitive version ❶	0,45 W standard version
<b>Insulation</b> according to PN-EN 60664-1			
Insulation resistance		100 MΩ	500 V DC, 60 s
Dielectric strength	• between coil and contacts	4 000 V AC	type of insulation: reinforced
	• contact clearance	1 000 V AC	type of clearance: micro-disconnection
<b>General data</b>			
Operating / release time (typical values)		8 ms / 5 ms	
Electrical life (number of cycles)	• resistive AC1	1 800 cycles/hour	10 <sup>5</sup> 1 CO: 5 A / 5 A (NO/NC), 250 V AC   1 NO: 5 A, 250 V AC
	• resistive DC1	1 800 cycles/hour	10 <sup>5</sup> 1 CO: 5 A / 5 A (NO/NC), 28 V DC   1 NO: 5 A, 28 V DC
Mechanical life	18 000 cycles/hour	10 <sup>7</sup>	
Dimensions (L x W x H)		20,5 x 10,6 x 15,6 mm	
Weight		7 g	
Ambient temperature	• operating	-40...+70 °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.

❶ Only for contacts 1 NO

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**Coil data - DC voltage version, sensitive**

**Table 1**

Coil code ❶	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)
S005	5	125	± 10%	3,75	5,5
S009	9	405	± 10%	6,75	9,9
S012	12	720	± 10%	9,00	13,2
S024	24	2 880	± 10%	18,00	26,4

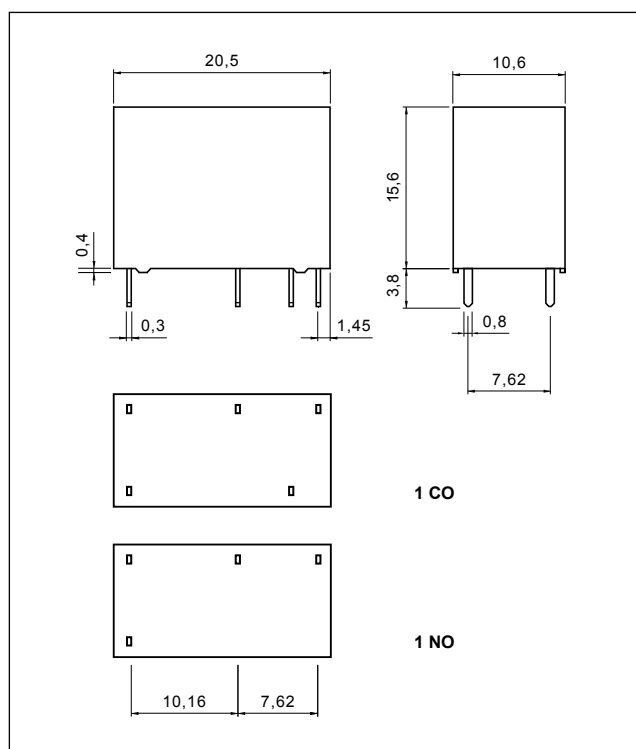
❶ Only for contacts 1 NO

**Coil data - DC voltage version, standard**

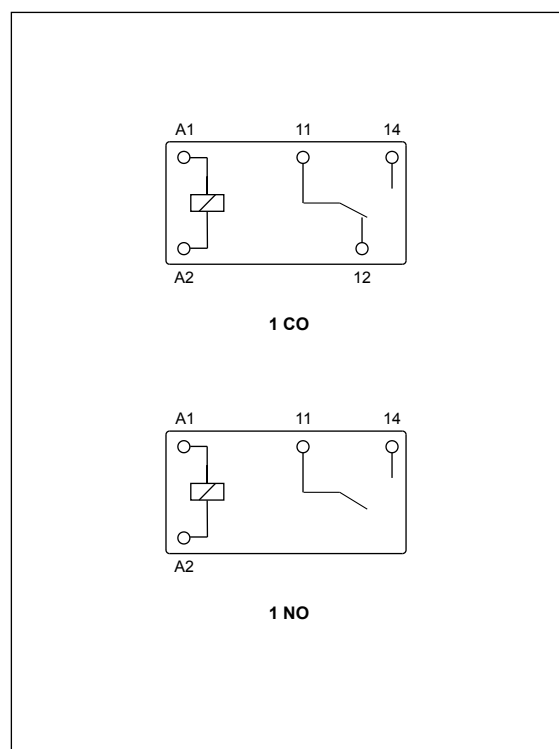
**Table 2**

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	56	± 10%	3,75	5,5
1009	9	180	± 10%	6,75	9,9
1012	12	320	± 10%	9,00	13,2
1024	24	1 280	± 10%	18,00	26,4

### Dimensions



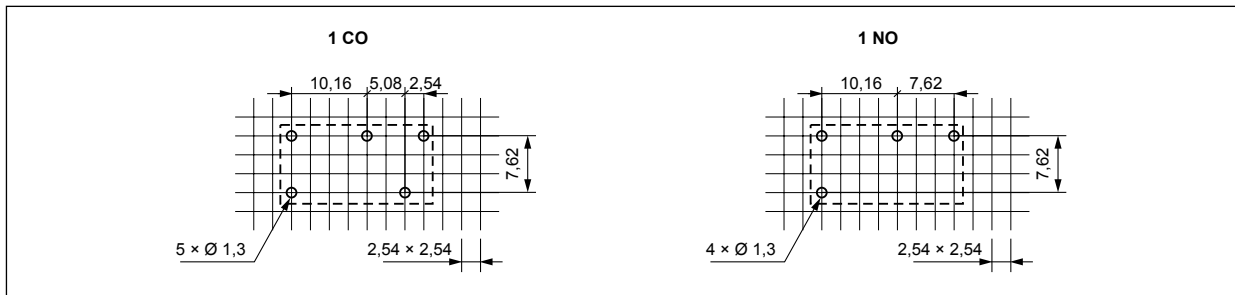
### Connection diagrams (pin side view)



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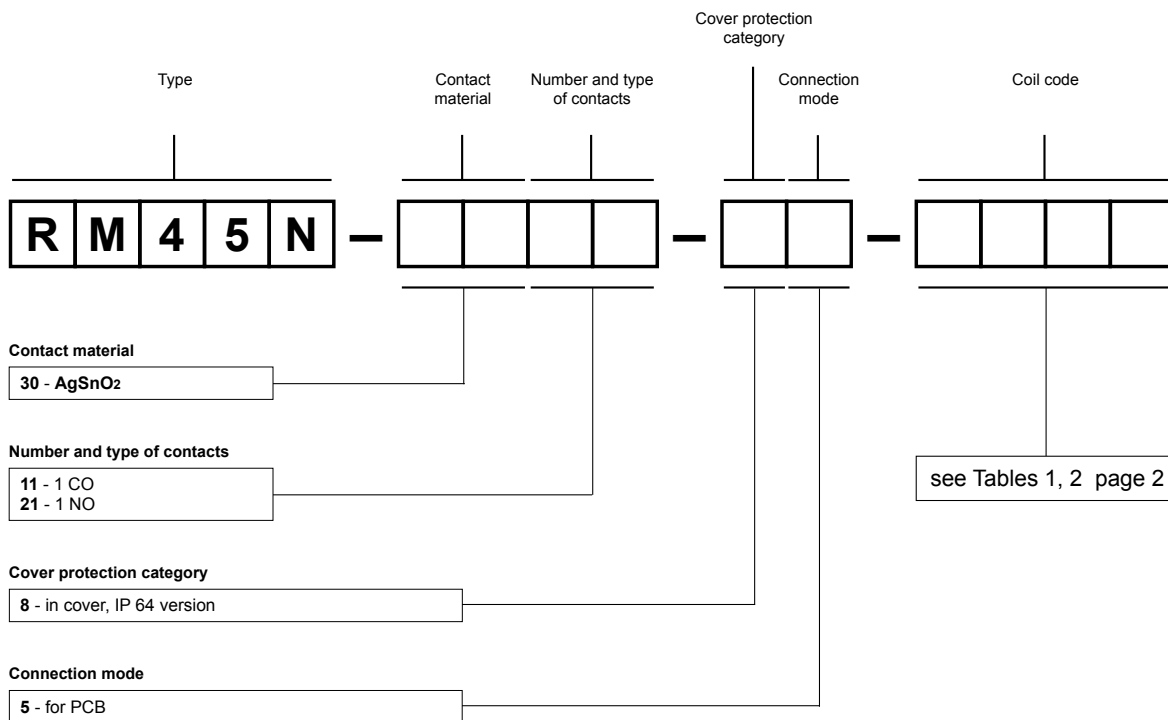
### Pinout (solder side view)



### Mounting

Relays **RM45N** are designed for direct PCB mounting.

### Ordering codes



Examples of ordering codes:

**RM45N-3021-85-S012**

relay **RM45N**, for PCB, one normally open contact, contact material AgSnO<sub>2</sub>, sensitive coil voltage 12 V DC, in cover IP 64

**RM45N-3011-85-1024**

relay **RM45N**, for PCB, one changeover contact, contact material AgSnO<sub>2</sub>, standard 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.

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