



# RM40

## miniature relays



- Very small dimensions
- High switching capacity up to 5 A or 8 A
- Cover with enhanced sealing protects the relay in course of soldering and cleaning
- Applications: for household equipment, office machines, control devices, alarm systems, in industrial control, industrial controllers
- Recognitions, certifications, directives: RoHS,  

### Contact data

Number and type of contacts		1 CO	1 NO
Contact material		1 CO: <b>AgNi</b> , AgNi/Au 3 μm	1 NO: <b>AgSnO<sub>2</sub></b>
Rated / max. switching voltage	AC	1 CO: 250 V / 380 V	1 NO: 250 V / 440 V
Min. switching voltage		5 V AgNi, 1 V AgNi/Au 3 μm	5 V AgSnO <sub>2</sub>
Rated load	AC1 DC1	1 CO: 5 A / 250 V AC 1 CO: 5 A / 30 V DC	1 NO: 8 A / 250 V AC 1 NO: 8 A / 30 V DC
Min. switching current		10 mA AgNi, 1 mA AgNi/Au 3 μm	10 mA AgSnO <sub>2</sub>
Rated current		1 CO: 5 A	1 NO: 8 A
Max. breaking capacity	AC1	1 CO: 1 250 VA	1 NO: 2 000 VA
Min. breaking capacity		50 mW AgNi, 1 mW AgNi/Au 3 μm	50 mW AgSnO <sub>2</sub>
Contact resistance		≤ 100 mΩ	

### Coil data

Rated voltage	DC	3 ... 48 V
Must release voltage		DC: ≥ 0,05 U <sub>n</sub>
Operating range of supply voltage		see Table 1
Rated power consumption	DC	0,20 W

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

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
Contact - coil distance			
• clearance		≥ 5 mm	
• creepage		≥ 5 mm	

### General data

Operating / release time (typical values)		8 ms / 4 ms	
Electrical life (number of cycles)			
• resistive AC1	360 cycles/hour	> 10 <sup>5</sup> 1 CO: 5 A, 250 V AC	1 NO: 8 A, 250 V AC
• resistive DC1	1 800 cycles/hour	> 10 <sup>5</sup> 1 CO: 5 A, 30 V DC	1 NO: 8 A, 30 V DC
Mechanical life	18 000 cycles/hour	> 10 <sup>7</sup>	
Dimensions (L x W x H)		20 x 10 x 10,5 mm	
Weight		6 g	
Ambient temperature	• operating	-40...+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. 3,5 s	

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

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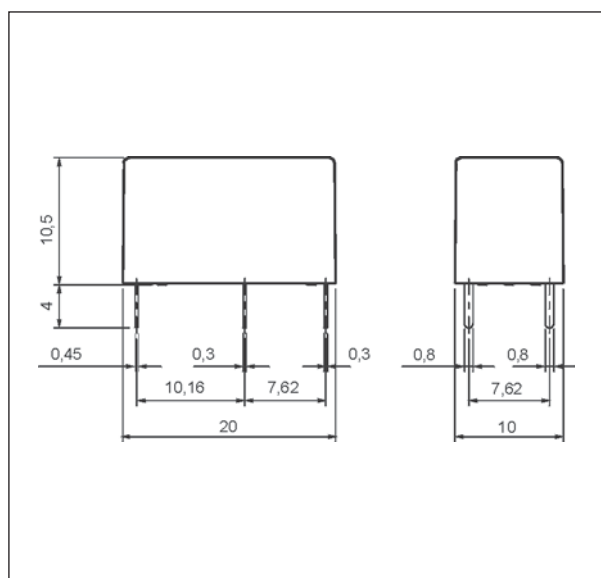
miniature relays

Coil data - DC voltage version

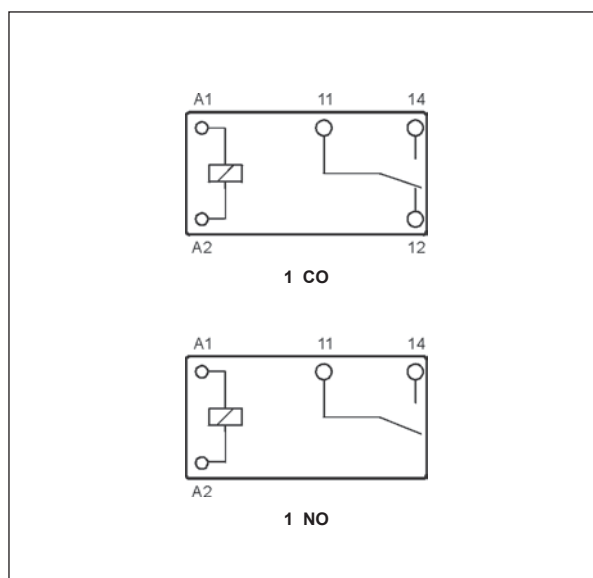
Table 1

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)
1003	3	45	$\pm 10\%$	2,25	4,5
1005	5	125	$\pm 10\%$	3,75	7,5
1006	6	180	$\pm 10\%$	4,50	9,0
1009	9	405	$\pm 10\%$	6,75	13,5
1012	12	720	$\pm 10\%$	9,00	18,0
1024	24	2 880	$\pm 10\%$	18,00	36,0
1048	48	11 520	$\pm 10\%$	36,00	72,0

## Dimensions

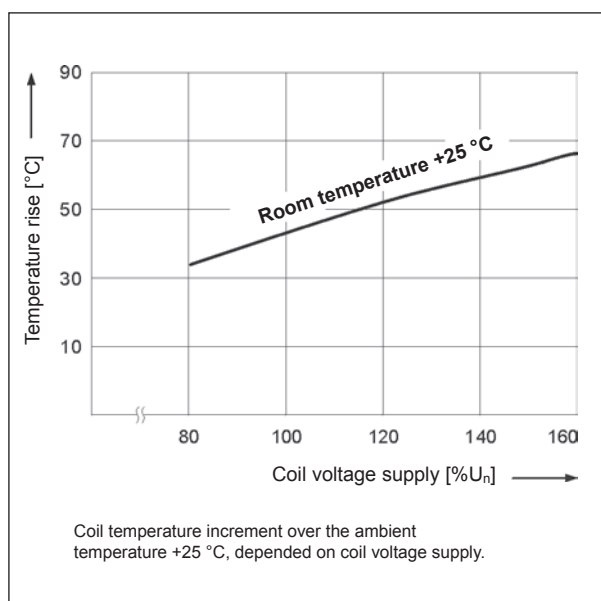


## Connection diagrams (pin side view)



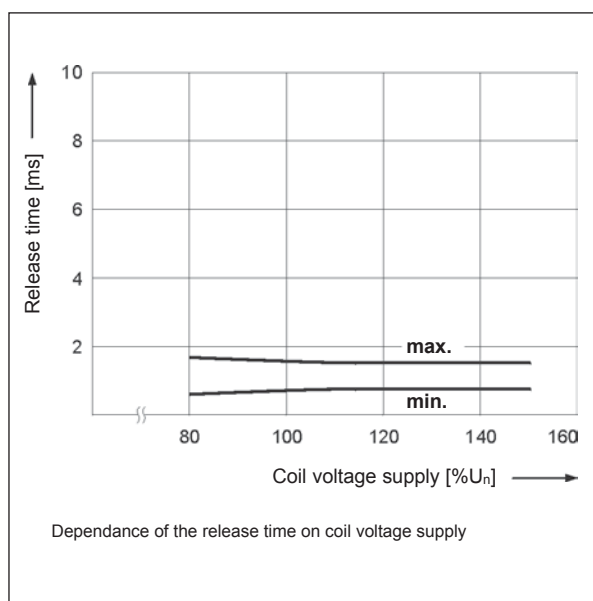
## Coil temperature rise

Fig. 1



## Release time

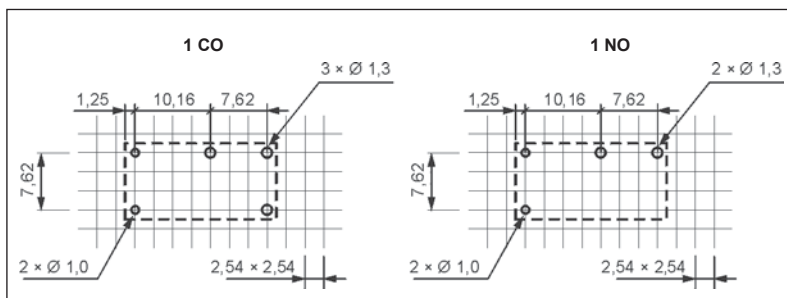
Fig. 2



# RM40

## miniature relays

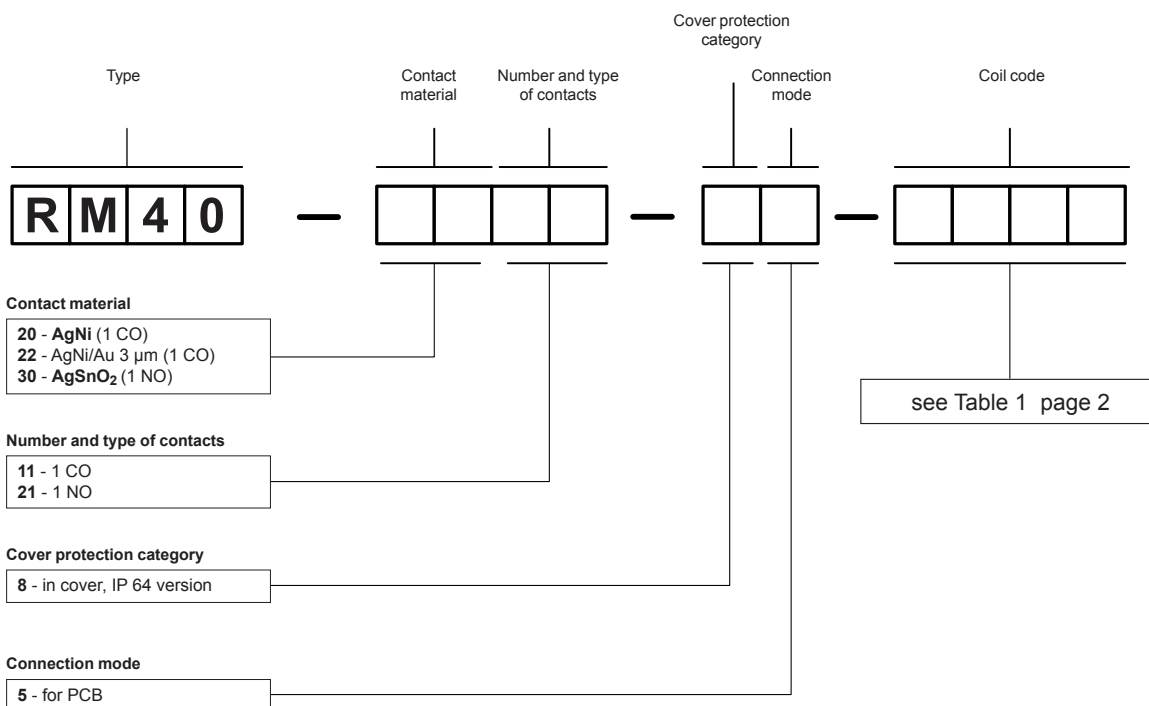
### Pinout (solder side view)



### Mounting

Relays **RM40** are designed for direct PCB mounting.

### Ordering codes



Examples of ordering code:

**RM40-2011-85-1003**

relay **RM40**, for PCB, one changeover contact, contact material AgNi, for PCB, coil voltage 3 V DC, in cover IP 64

**RM40-3021-85-1024**

relay **RM40**, for PCB, one normally open contact, contact material AgSnO<sub>2</sub>, coil voltage 24 V DC, in cover IP 64