

RM40

miniature relays



- Very small dimensions
- High switching capacity up to 5 A or 8 A
- Sealed, for wave soldering and cleaning
- Available special versions: halogen-free
- Applications: for household equipment, office machines, control devices, alarm systems, in industrial control, monitoring systems, industrial controllers
- Recognitions, certifications, directives : RoHS, : UL US, : D'E, : EAC

Contact data

Number and type of contacts		1 CO	1 NO
Contact material		1 CO: AgNi , AgNi/Au hard gold plating	1 NO: AgSnO₂
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 hard gold plating	5 V AgSnO ₂
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 hard gold plating	10 mA AgSnO ₂
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 hard gold plating	50 mW AgSnO ₂
Contact resistance		≤ 100 mΩ	

Coil data

Rated voltage	DC	3, 5, 6, 9, 12, 24, 48 V
Must release voltage		DC: ≥ 0,05 U _n
Operating range of supply voltage		see Table 1
Rated power consumption	DC	0,20 W

Insulation according to EN 60664-1

Rated surge voltage		10 000 V	1,2 / 50 μs
Insulation resistance		> 100 MΩ	500 V DC
Dielectric strength		4 000 V AC	type of insulation: reinforced
• between coil and contacts		1 000 V AC	type of clearance: micro-disconnection
• contact clearance			
Contact - coil distance		≥ 5 mm	
• clearance		≥ 5 mm	
• creepage			

General data

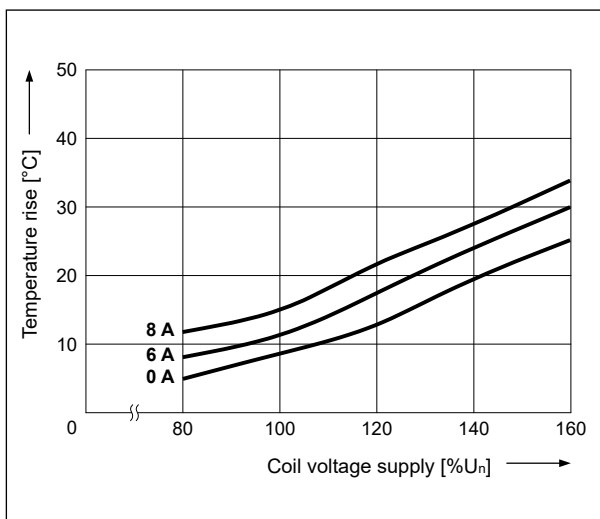
Operating / release time (typical values)		8 ms / 4 ms	
Electrical life (number of cycles)			
• resistive AC1	360 cycles/hour	> 10 ⁵	1 CO: 5 A, 250 V AC 1 NO: 8 A, 250 V AC
• resistive DC1	360 cycles/hour	> 10 ⁵	1 CO: 5 A, 30 V DC 1 NO: 8 A, 30 V DC
Mechanical life	18 000 cycles/hour	> 10 ⁷	
Dimensions (L x W x H)		20 x 10 x 10,5 mm	
Weight		6 g	
Ambient temperature (non-condensation and/or icing)	• operating	-40...+85 °C	
Cover protection category		IP 67	EN 60529
Environmental protection		RTIII	EN 61810-7
Shock resistance		10 g	
Vibration resistance		1,5 mm DA (double amplitude)	10...55 Hz
Solder bath temperature		max. 260 °C	
Soldering time		max. 5 s	

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

The VDE certificate includes only standard versions.

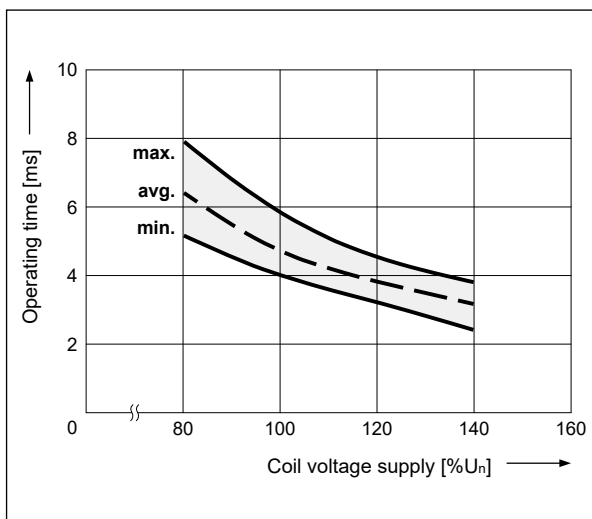
Coil temperature rise at 85 °C

Fig. 1



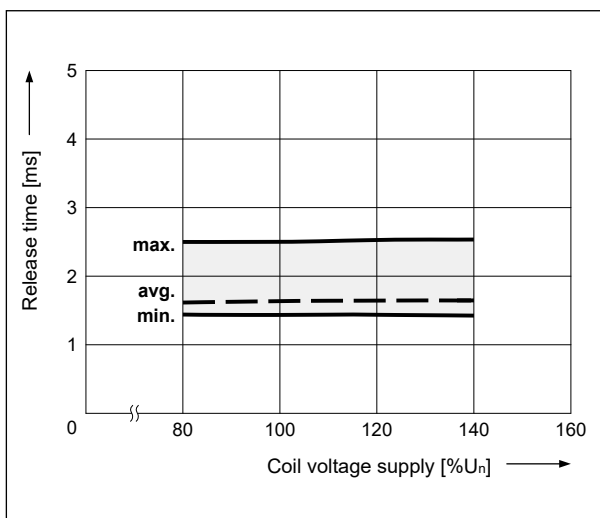
Operating time

Fig. 2

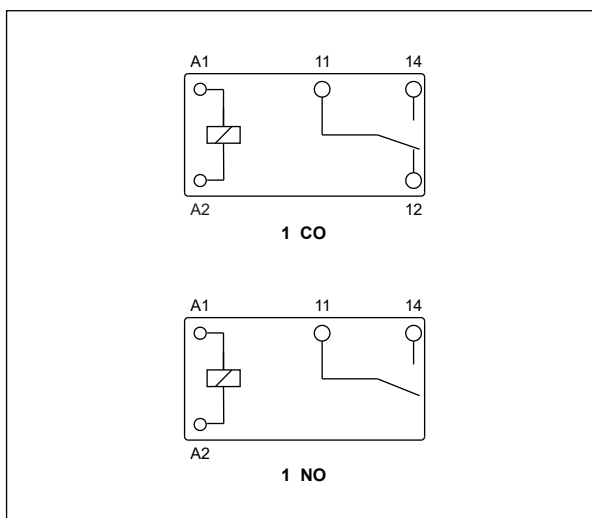


Release time

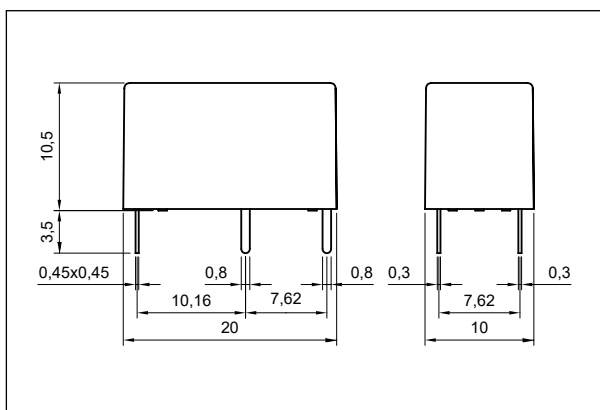
Fig. 3



Connection diagrams (pin side view)



Dimensions



Mounting

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

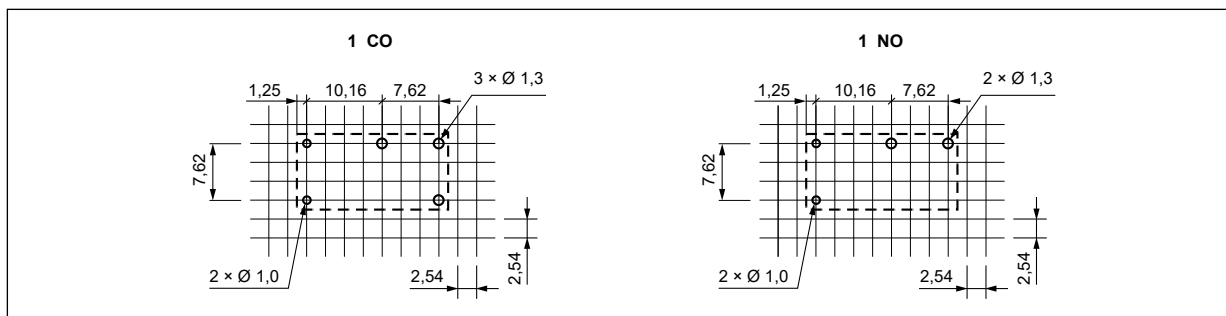
PRECAUTIONS:

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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Pinout (solder side view)

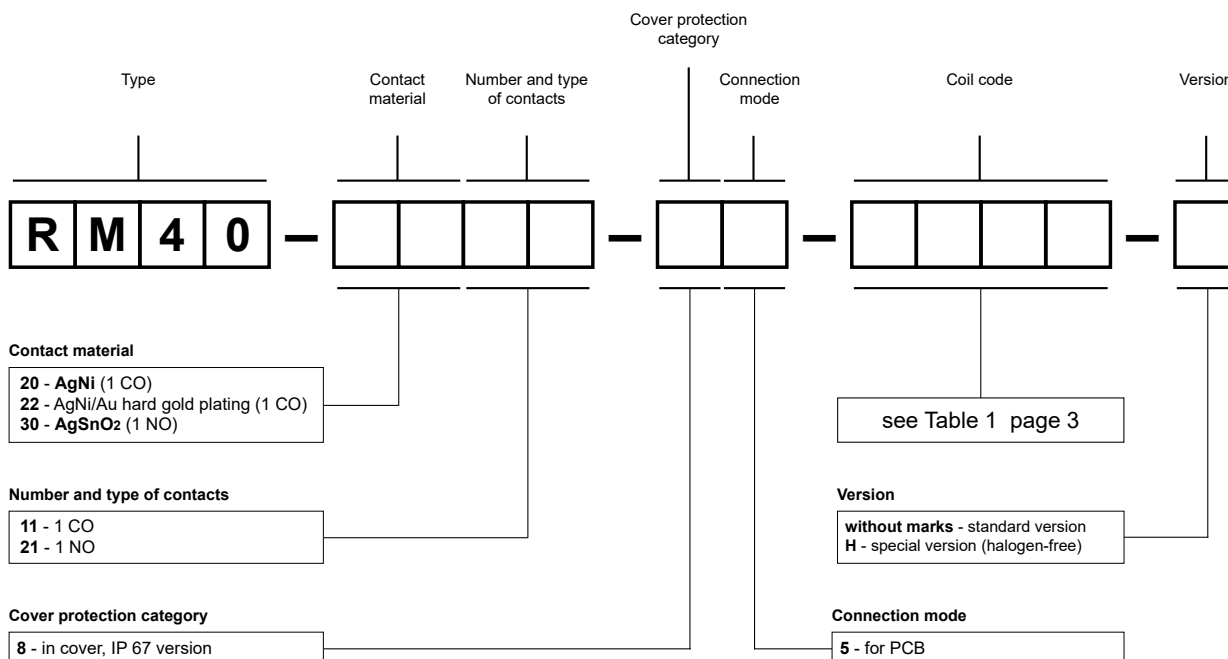


Coil data - DC voltage version

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

Ordering codes



Examples of ordering codes:

RM40-2011-85-1003

relay **RM40**, for PCB, one changeover contact, contact material AgNi, coil voltage 3 V DC, in cover IP 67, standard version

RM40-3021-85-1024-H

relay **RM40**, for PCB, one normally open contact, contact material AgSnO₂, coil voltage 24 V DC, in cover IP 67, special version (halogen-free)