



RM50N

miniature relays



- DC coils - of up to 48 V DC, low coil power 0,36 W
- For PCB
- Small dimensions, light weight
- Applications: for household electrical appliance, automation control, telecommunication devices, machinery electrical equipment
- Recognitions, certifications, directives: RoHS,  

Contact data

Number and type of contacts		1 CO, 1 NO
Contact material		AgSnO₂ , AgCdO ①
Max. switching voltage	AC	277 V
	DC	110 V
Min. switching voltage		5 V
Rated load	AC1	6 A / 250 V AC 12 A / 125 V AC
	DC1	12 A / 28 V DC
Motor load	acc. to UL 508	1/3 HP 250 V AC, single-phase motor
Min. switching current		15 mA
Rated current		12 A
Max. breaking capacity	AC1	1 500 VA
Contact resistance		≤ 100 mΩ

Coil data

Rated voltage	DC	5, 9, 12, 24, 48 V
Must release voltage		DC: ≥ 0,1 U _n
Operating range of supply voltage		see Table 1
Rated power consumption	DC	0,36 W

Insulation according to EN 60664-1

Insulation resistance		250 MΩ	500 V DC, 60 s
Dielectric strength			
• between coil and contacts		1 500 V AC	type of insulation: basic
• contact clearance		750 V AC	type of clearance: micro-disconnection
Contact - coil distance			
• clearance		≥ 1,9 mm	
• creepage		≥ 1,9 mm	

General data

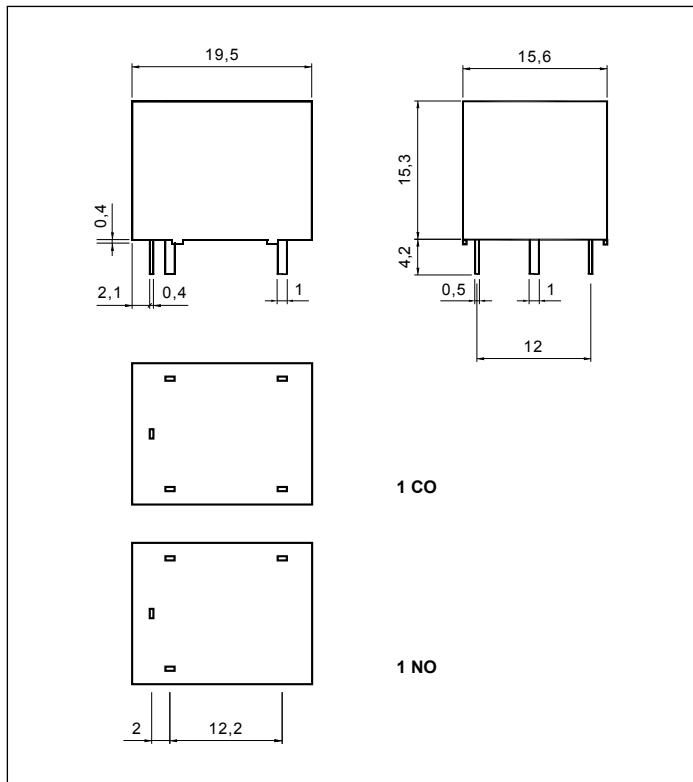
Operating / release time (typical values)		10 ms / 5 ms
Electrical life (number of cycles)		
• resistive AC1	1 800 cycles/hour	10 ⁵ 6 A, 250 V AC
		10 ⁵ 12 A, 125 V AC (UL)
		10 ⁵ 12 A, 28 V DC (UL)
• resistive DC1	1 800 cycles/hour	10 ⁷
Mechanical life	18 000 cycles/hour	10 ⁷
Dimensions (L x W x H)		19,5 x 15,6 x 15,3 mm
Weight		9,5 g
Ambient temperature		
(non-condensation and/or icing)	• operating	-55...+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 (constant 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. ① AgCdO contact material in electrical contacts is only for use in electrical and electronic equipment (EEE) in compliance with directive RoHS2 2011/65/EU in restricted categories of EEE covered by this directive. Relpol S.A. is not responsible for usage relays with AgCdO contact material in categories of EEE where it is prohibited by the directive RoHS2 2011/65/EU.

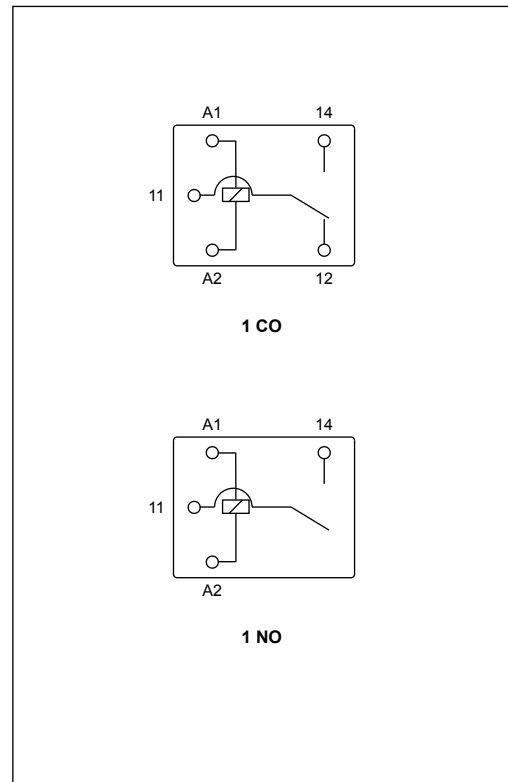
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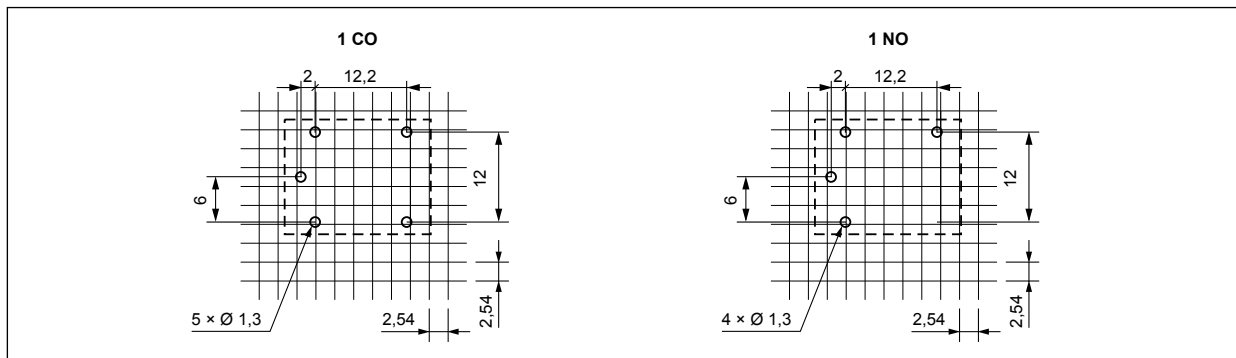
Dimensions



Connection diagrams (pin side view)



Pinout (solder side view)



Mounting

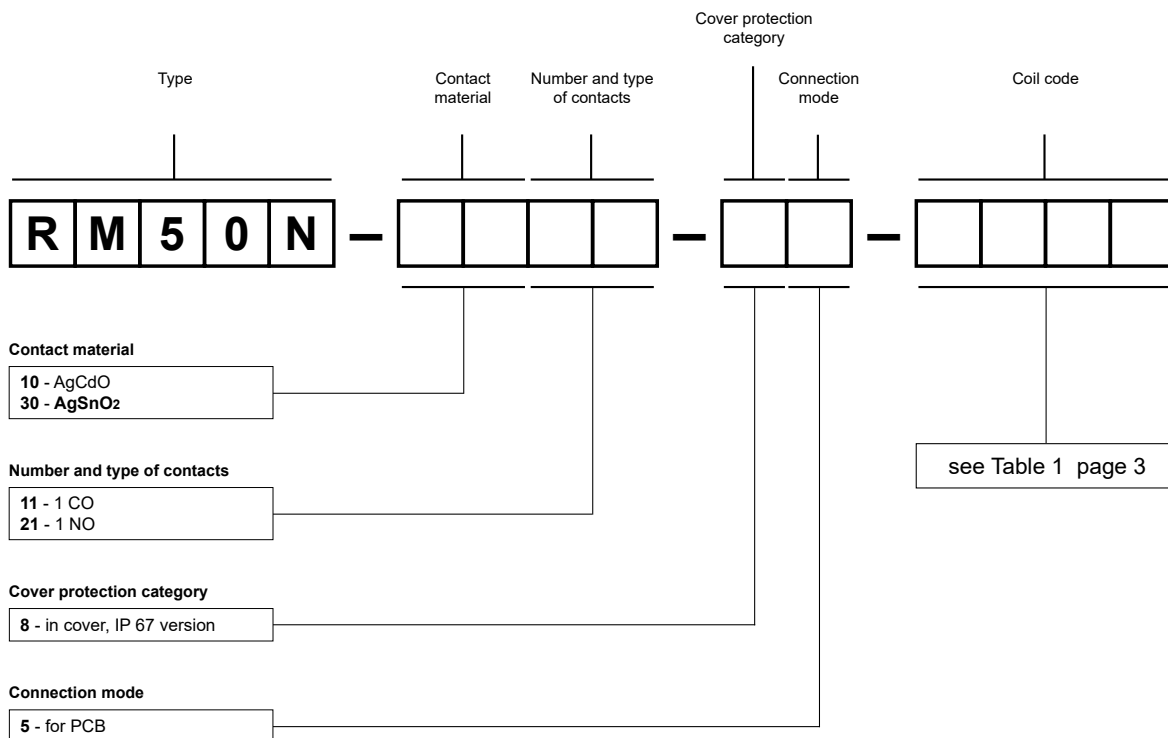
Relays **RM50N** are designed for direct PCB mounting.

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	70	$\pm 10\%$	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

Ordering codes



Examples of ordering codes:

- RM50N-3011-85-1012** relay **RM50N**, for PCB, one changeover contact, contact material AgSnO₂, coil voltage 12 V DC, in cover IP 67
- RM50N-1021-85-1024** relay **RM50N**, for PCB, one normally open contact, contact material AgCdO, coil voltage 24 V DC, in cover IP 67

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.