




- Cadmium - free contacts • Miniature dimensions
- Automotive applications
- High resistance to inrush current
- For PCB
- Following relays versions are available:
  - RA2** - standard design
  - RAW2** - narrow pin layout design
- Recognitions, certifications, directives: RoHS, 

### Contact data

Number and type of contacts	1 C/O, 1 NO, 2 NO		
Contact material	<b>AgSnO<sub>2</sub></b>		
Max. switching voltage	AC/DC	60 V / 60 V	
Min. switching voltage	1 V		
Min. switching current	10 mA		
Max. inrush current	1 C/O: 110 A / 50 A (NO/NC) 1 NO: 110 A      2 NO: 2 x 110 A		
Rated current	1 C/O: 20 A / 12 A (NO/NC) 1 NO: 20 A      2 NO: 2 x 12,5 A		
Max. breaking capacity	1 C/O: 270 W / 162 W (NO/NC) 1 NO: 270 W      2 NO: 2 x 168 W		
Min. breaking capacity	1 W		
Contact resistance	≤ 3 mΩ		
Max. operating frequency	AC1	900 cycles/hour      2 s ON / 2 s OFF	
• at rated load		450 cycles/hour      2 s ON / 6 s OFF	
• at motor load		120 cycles/hour      2 s ON / 30 s OFF	
• at incandescent lamp load		36 000 cycles/hour	
• no load			

### Coil data

Rated voltage	DC	5..48 V
Must release voltage	DC: ≥ 0,15 U <sub>n</sub>	
Operating range of supply voltage	see Table 1	
Must operate voltage	≤ 0,6 U <sub>n</sub>	
Rated power consumption	DC	1,44 W

### Insulation

Insulation rated voltage	60 V AC	
Dielectric strength	500 V AC	
• between coil and contacts	500 V AC	
• contact clearance	500 V AC	
Contact - coil distance	≥ 1 mm	
• clearance	≥ 1 mm	
• creepage	≥ 1 mm	

### General data

Operating time (typical value)	10 ms	
Release time (typical value)	3 ms	
Electrical life	• resistive DC1	
	1 C/O: > 10 <sup>5</sup> 20/12 A (NO/NC), 13,5 V DC	
	1 NO: > 10 <sup>5</sup> 20 A, 13,5 V DC	
	2 NO: > 10 <sup>5</sup> 2 x 12,5 A, 13,5 V DC	
Mechanical life (cycles)	> 10 <sup>7</sup>	
Dimensions (L x W x H)	IP 00: 18,6 x 13,0 x 18,5 mm	
	IP 40: 20,5 x 15,3 x 19,7 mm	
Weight	12 g	
Ambient temperature	• storage	
	-40...+100 °C	
	• operating	
	-40...+85 °C	
Cover protection category	IP 40 or <b>IP 00 (without cover)</b>	
Solder bath temperature	max. 270 °C	
Soldering time	max. 5 s	

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

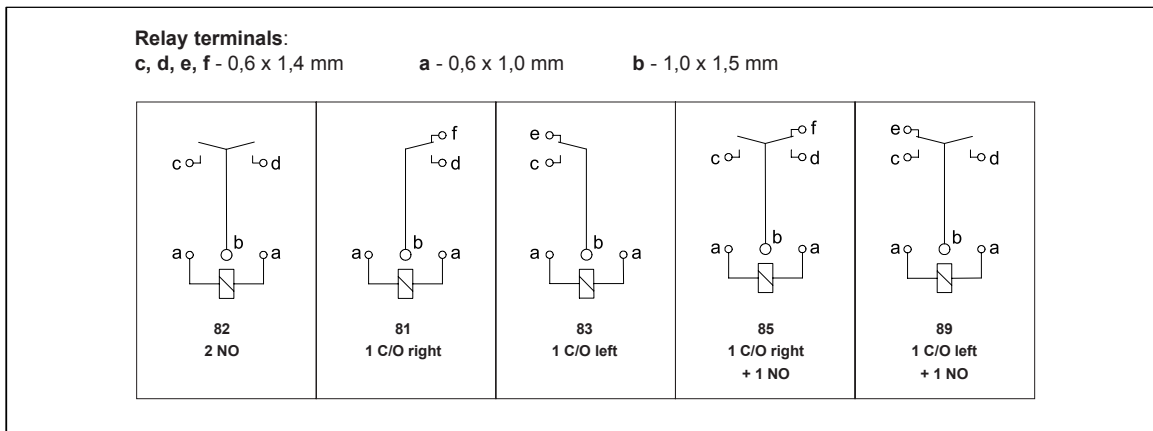
Coil data - DC voltage version

Table 1

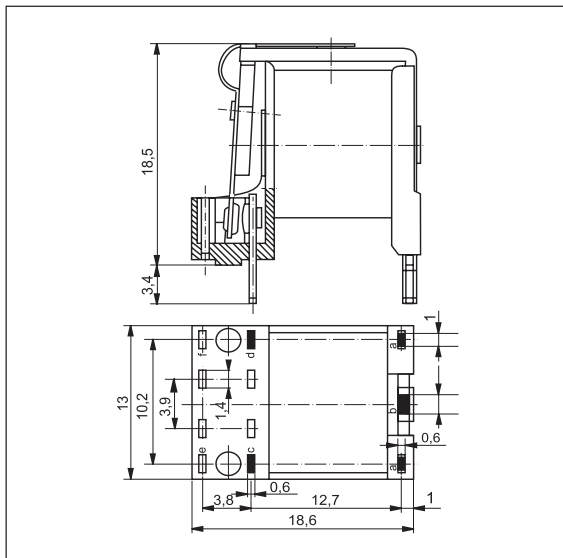
Coil code	Rated voltage V DC	Coil resistance ±10% at 20 °C Ω	Coil operating range at 85 °C V DC	
			min.	maks.
1005	5	18	4,0	6,6
1006	6	24	4,8	8,0
1009	9	55	7,2	12,0
<b>1012</b>	<b>12</b>	<b>100</b>	<b>9,6</b>	<b>16,0</b>
1015	15	152	12,0	20,0
1018	18	230	14,4	23,9
1024	24	390	19,2	31,9
1048	48	1 590	38,4	63,8

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

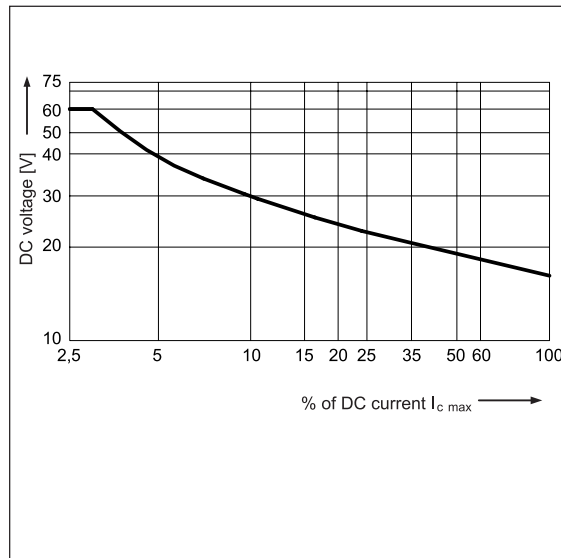
Connections diagrams (pin side view)



Dimensions



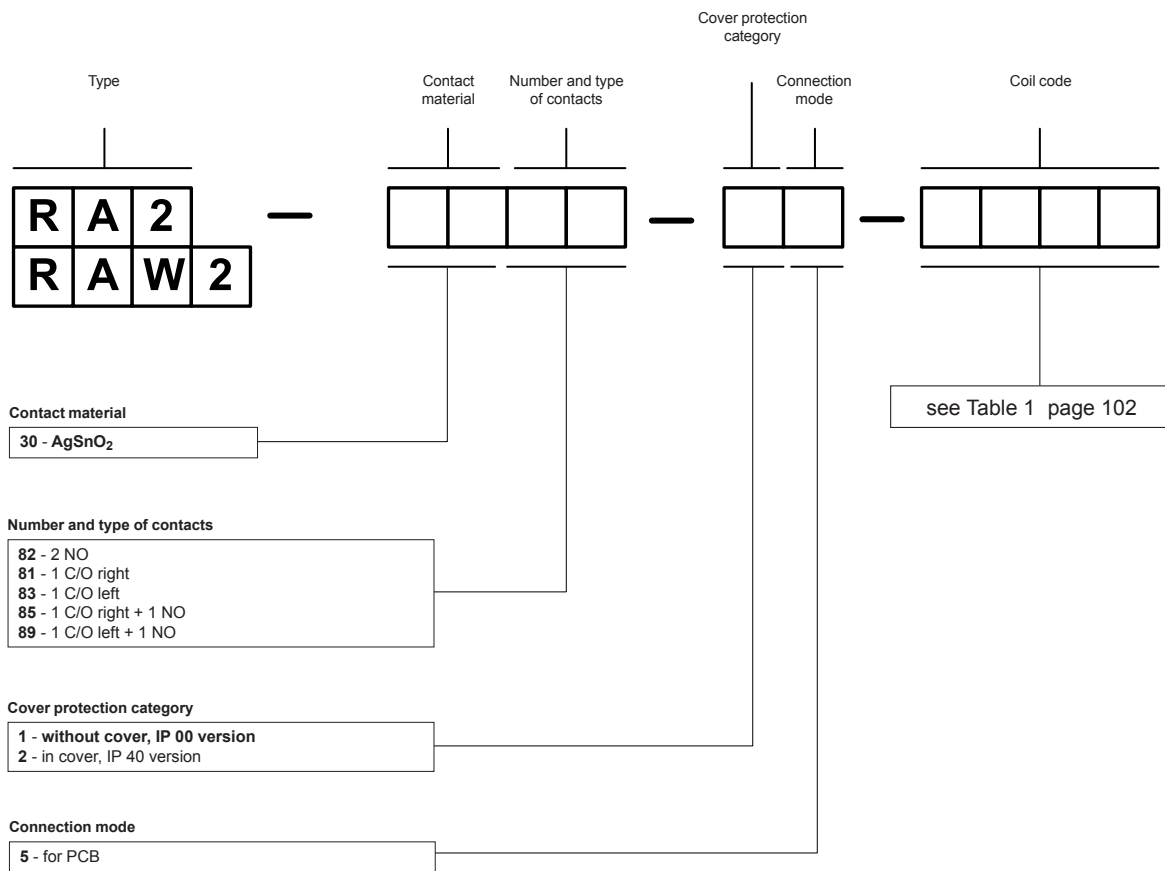
Max. DC resistive load breaking capacity Fig. 1



## Mounting

Relays **RA2** are designed for direct PCB mounting.

## Ordering codes



Examples of ordering codes:

**RA2-3081-15-1012**

relay **RA2**, contact material AgSnO<sub>2</sub>, with one right changeover contact, without cover IP 00, for PCB, voltage version 12 V DC

**RAW2-3082-25-1024**

relay **RAW2** with narrow pin layout design, contact material AgSnO<sub>2</sub>, with two normally open contacts, in cover IP 40, for PCB, voltage version 24 V DC