




# RM83

## miniature relays

RM83

RM83-...-01



- Miniature dimensions • General purpose relays
- **Version 1 NO AgSnO<sub>2</sub> - for special loads:**  
**resistance to inrush current 120 A (20 ms)**
- Protection category IP 40 or IP 67
- For PCB and plug-in sockets
- DC coils - standard and sensitive, insulation class F: 155 °C
- Available special versions: with transparent cover
- Recognitions, certifications, directives: RoHS,   

### Contact data

Number and type of contacts	1 CO, 1 NO, 1 NC
Contact material	<b>AgSnO<sub>2</sub></b> , (AgCdO, AgCdO/Au flash gold plating) ❶
Rated / max. switching voltage	AC 250 V / 400 V
Min. switching voltage	10 V AgSnO <sub>2</sub> , 10 V AgCdO, 10 V AgCdO/Au flash gold plating
Rated load (capacity)	<div>AC1 16 A / 250 V AC</div> <div>AC15 6 A / 120 V                      3 A / 240 V (A300)</div> <div>DC1 16 A / 24 V DC (see Fig. 3)</div> <div>DC13 0,22 A / 120 V                      0,1 A / 250 V (R300)</div>
Motor load	<div>acc. to UL 508 1/2 HP                      240 V AC, 4,9 FLA, single-phase motor ❷</div> <div>AC3 acc. to IEC 60947-4-1 0,65 kW                      240 V AC, single-phase motor</div>
Min. switching current	10 mA AgSnO <sub>2</sub> , 5 mA AgCdO, 5 mA AgCdO/Au flash gold plating
Max. inrush current	30 A 1 NO, AgSnO <sub>2</sub>
Rated current	16 A
Max. breaking capacity	AC1 4 000 VA
Min. breaking capacity	1 W AgSnO <sub>2</sub> , 0,5 W AgCdO, 0,5 W AgCdO/Au flash gold plating
Contact resistance	≤ 100 mΩ
Max. operating frequency	<div>• at rated load AC1 600 cycles/hour</div> <div>• no load 72 000 cycles/hour</div>

### Coil data

Rated voltage	DC 5, 6, 9, 12, 18, 24, 36, 48, 60, 110 V	standard coil
	110 V	sensitive coil
Must release voltage	DC: ≥ 0,1 U <sub>n</sub>	
Operating range of supply voltage	see Table 1	
Rated power consumption	DC 0,6 W	5 ... 60 V standard coil
	0,6 W	110 V sensitive coil
	0,9 W	110 V standard coil

### Insulation according to EN 60664-1

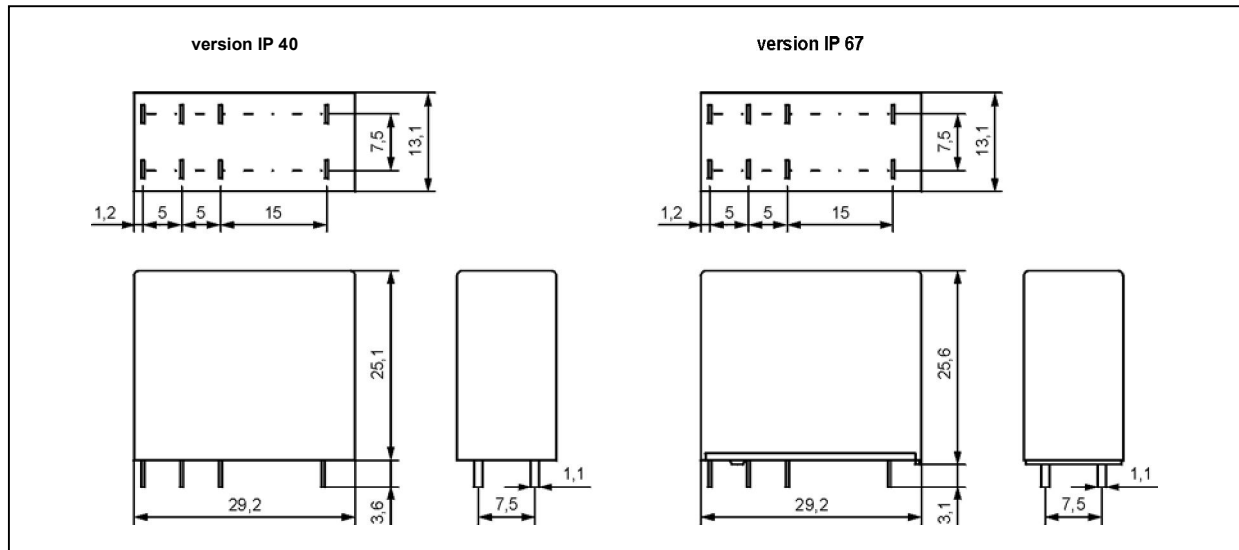
Insulation rated voltage		400 V AC	
Dielectric strength	• between coil and contacts	4 000 V AC	type of insulation: reinforced
	• contact clearance	1 000 V AC	type of clearance: micro-disconnection
Contact - coil distance	• clearance	≥ 8 mm	
	• creepage	≥ 8 mm	

### General data

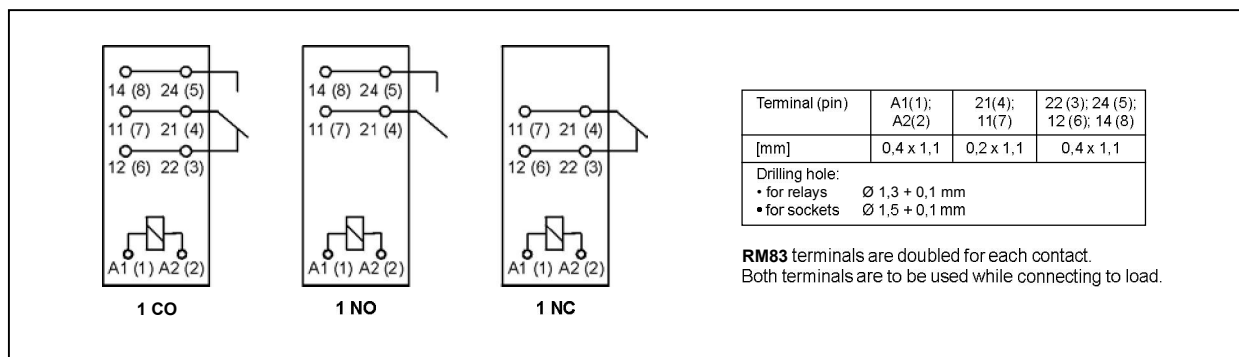
Operating / release time (typical values)	7 ms / 3 ms
Electrical life (number of cycles)	
• resistive AC1	> 10 <sup>5</sup> 16 A, 250 V AC
• at incandescent lamp load	> 10 <sup>5</sup> 1000 W, 230 V AC, 1 NO, AgSnO <sub>2</sub>
	> 3 x 10 <sup>4</sup> 3000 W, 230 V AC, 1 NO, AgSnO <sub>2</sub>
• at halogen lamp load	> 10 <sup>4</sup> 2500 W, 230 V AC, 1 NO, AgSnO <sub>2</sub>
• cosφ	see Fig. 2
• L/R=40 ms	> 10 <sup>5</sup> 0,12 A, 220 V DC
Mechanical life (cycles)	> 3 x 10 <sup>7</sup>
Dimensions (L x W x H)	IP 40: 29,2 x 13,1 x 25,1 mm
	IP 67: 29,2 x 13,1 x 25,6 mm
Weight	18 g
Ambient temperature	• storage -40...+85 °C
(non-condensation and/or icing)	• operating -40...+70 °C
Cover protection category	<b>IP 40</b> or IP 67                      EN 60529
Environmental protection	<b>RTI</b> or RTII                      EN 61810-7
Shock / vibration resistance	20 g / 10 g                      10...150 Hz
Solder bath temperature / Soldering time	max. 270 °C / max. 5 s

The data in bold type relate to the standard versions of the relays. ❶ 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. ❷ For single phase motors for 110-120 V AC do not use motors with higher FLA than given for 240 V AC.

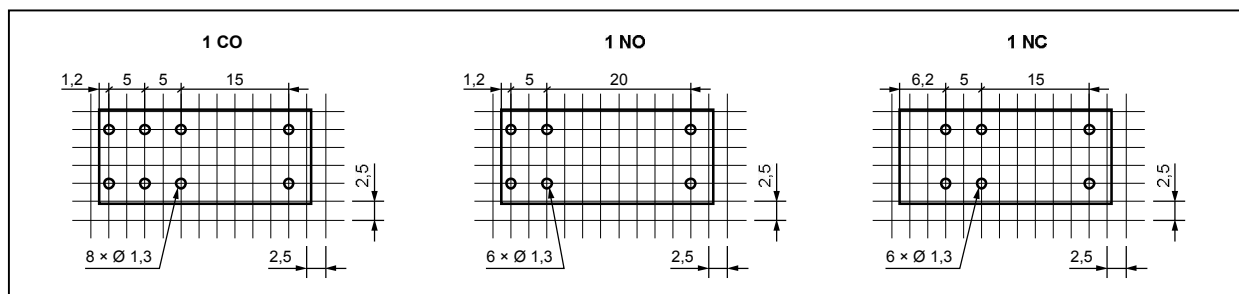
## Dimensions



## Connection diagrams (pin side view)

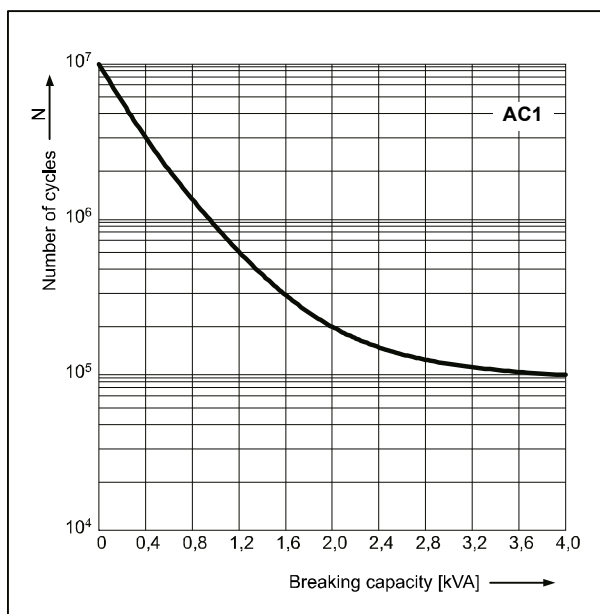


## Pinout (solder side view)



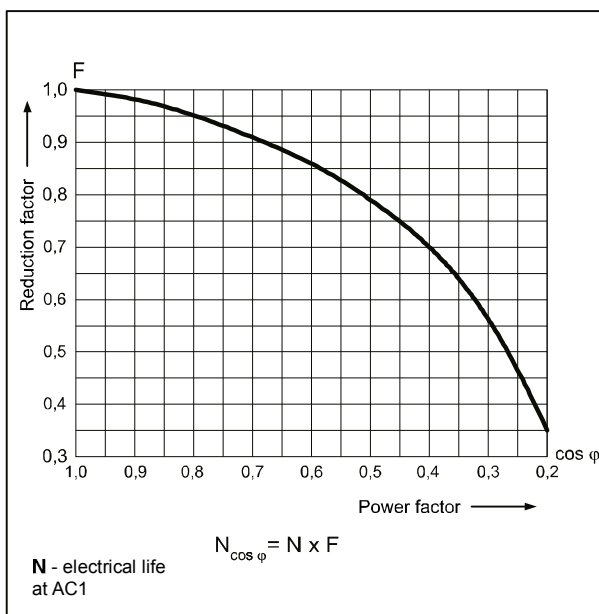
**Electrical life at AC resistive load.**  
Switching frequency: 600 cycles/hour

Fig. 1



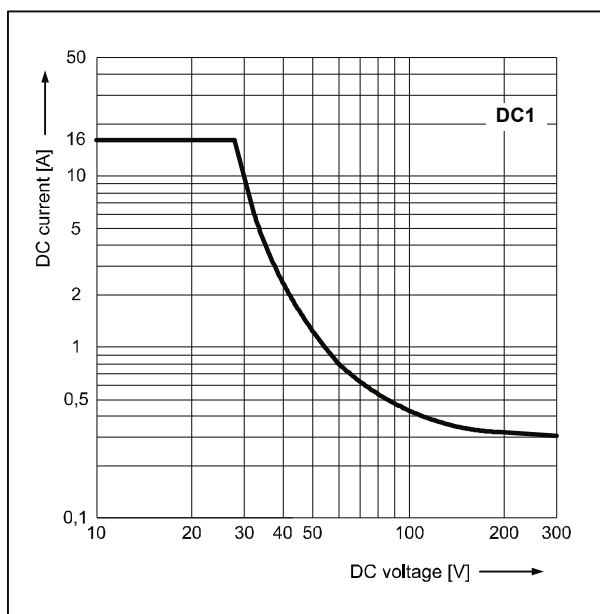
**Electrical life reduction factor at AC inductive load**

Fig. 2



**Max. DC resistive load breaking capacity**

Fig. 3



**Mounting, sockets and accessories for relays**

Relays **RM83** are designed for:

- direct PCB mounting
- plug-in sockets.

Sockets for RM83	Accessories
	Spring wire clips
Sockets for PCB	
EC 50	MP25-2 Ⓢ, MH25-2
PW80	MH25-2
GD50	MP25-2 Ⓢ, MH25-2

Ⓢ Plastic clips MP25-2.

**Coil data - DC voltage version, standard**
**Table 1**

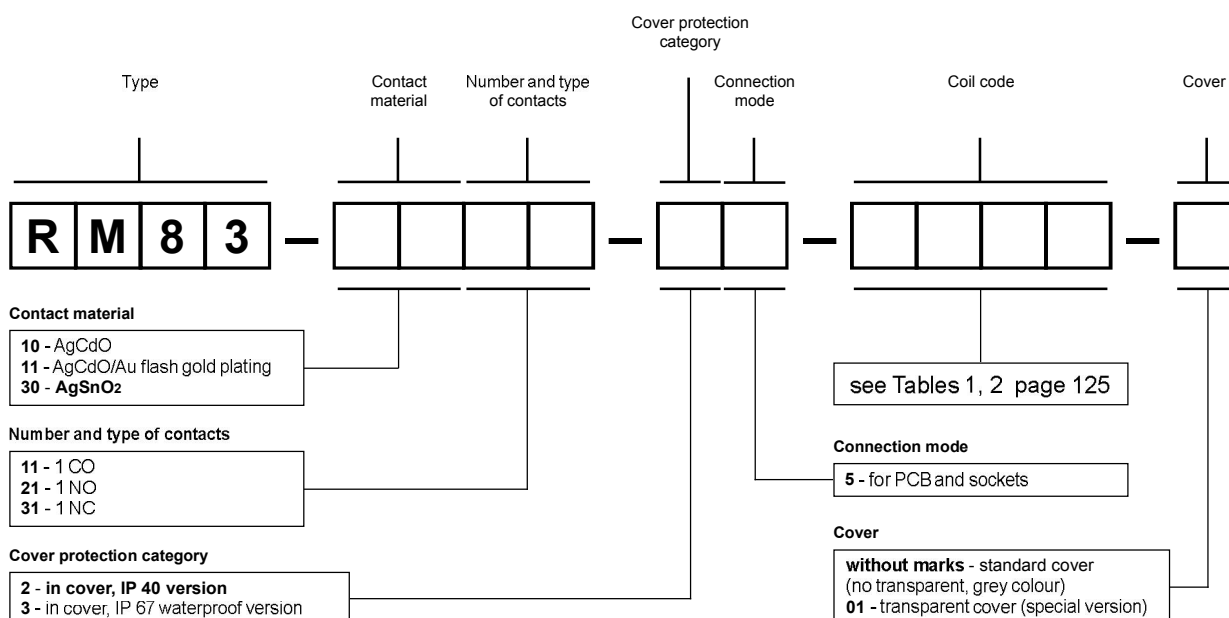
Coil code	Rated voltage V DC	Coil resistance at 20 °C $\Omega$	Acceptable resistance	Coil operating range V DC	
				min. (at 20 °C)	max. (at 20 °C)
1005	5	49	$\pm 10\%$	3,5	8,9
1006	6	68	$\pm 10\%$	4,2	10,6
1009	9	110	$\pm 10\%$	6,3	15,9
<b>1012</b>	<b>12</b>	<b>260</b>	<b><math>\pm 10\%</math></b>	<b>8,4</b>	<b>21,2</b>
1018	18	550	$\pm 10\%$	12,6	31,8
<b>1024</b>	<b>24</b>	<b>1 100</b>	<b><math>\pm 10\%</math></b>	<b>16,8</b>	<b>42,5</b>
1036	36	2 100	$\pm 10\%$	25,2	63,7
1048	48	4 400	$\pm 10\%$	33,6	85,0
1060	60	7 000	$\pm 10\%$	42,0	106,2
1110	110	13 000	$\pm 10\%$	77,0	140,0

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

**Coil data - DC voltage version, sensitive**
**Table 2**

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)
S110	110	20 500	$\pm 10\%$	77,0	188,0

## Ordering codes



Examples of ordering code:

**RM83-3011-25-1024**

relay **RM83**, for PCB and sockets, one changeover contact, contact material AgSnO<sub>2</sub>, coil voltage 24 V DC, in standard cover (no transparent, grey colour) IP 40

**RM83-3011-25-S110**

relay **RM83**, for PCB and sockets, one changeover contact, contact material AgSnO<sub>2</sub>, sensitive coil voltage 110 V DC, in standard cover (no transparent, grey colour) IP 40

**RM83-3021-35-1012-01**

relay **RM83**, for PCB and sockets, one normally open contact, contact material AgSnO<sub>2</sub>, coil voltage 12 V DC, with transparent cover (special version) IP 67