





RM83

miniature relays



- Miniature dimensions • General purpose relays
- **Version 1 NO AgSnO₂ - 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
- Recognitions, certifications, directives: RoHS,    

Contact data

Number and type of contacts		1 CO, 1 NO, 1 NC
Contact material		AgSnO₂ , AgCdO, AgCdO/Au 0,2 μm
Rated / max. switching voltage	AC	250 V / 440 V
Min. switching voltage		10 V AgSnO ₂ , 10 V AgCdO, 10 V AgCdO/Au 0,2 μm
Rated load (capacity)	AC1 AC15 AC3 DC1 DC13	16 A / 250 V AC 6 A / 120 V 3 A / 240 V (A300) 550 W (single-phase motor) 16 A / 24 V DC (see Fig. 3) 0,22 A / 120 V 0,1 A / 250 V (R300)
Min. switching current		10 mA AgSnO ₂ , 5 mA AgCdO, 5 mA AgCdO/Au 0,2 μm
Max. inrush current		30 A 1 NO, AgSnO ₂
Rated current		16 A
Max. breaking capacity	AC1	4 000 VA
Min. breaking capacity		1 W AgSnO ₂ , 0,5 W AgCdO, 0,5 W AgCdO/Au 0,2 μm
Contact resistance		≤ 100 mΩ
Max. operating frequency		600 cycles/hour
• at rated load	AC1	72 000 cycles/hour
• no load		

Coil data

Rated voltage	DC	5 ... 110 V standard version 110 V sensitive version
Must release voltage		DC: ≥ 0,1 U _n
Operating range of supply voltage		see Table 1
Rated power consumption	DC	0,6 W 5 ... 60 V standard version 0,6 W 110 V sensitive version 0,9 W 110 V standard version

Insulation according to PN-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 ⁵ 16 A, 250 V AC
• at incandescent lamp load		> 10 ⁵ 1000 W, 230 V AC 1 NO, AgSnO ₂
		> 3 x 10 ⁴ 3000 W, 230 V AC 1 NO, AgSnO ₂
• at halogen lamp load		> 10 ⁴ 2500 W, 230 V AC 1 NO, AgSnO ₂
• cosφ		see Fig. 2
• L/R=40 ms		> 10 ⁵ 0,12 A, 220 V DC
Mechanical life (cycles)		> 3 x 10 ⁷
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 • operating	-40...+85 °C -40...+70 °C
Cover protection category		IP 40 or IP 67 PN-EN 60529
Shock resistance		20 g
Vibration resistance		10 g 10...150 Hz
Solder bath temperature		max. 270 °C
Soldering time		max. 5 s

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

❶ For special version - relays in transparent cover - see "Ordering codes".

Coil data - DC voltage version, standard

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	49	± 10%	3,5	8,9
1006	6	68	± 10%	4,2	10,6
1009	9	110	± 10%	6,3	15,9
1012	12	260	± 10%	8,4	21,2
1018	18	550	± 10%	12,6	31,8
1024	24	1 100	± 10%	16,8	42,5
1036	36	2 100	± 10%	25,2	63,7
1048	48	4 400	± 10%	33,6	85,0
1060	60	7 000	± 10%	42,0	106,2
1110	110	13 000	± 10%	77,0	140,0

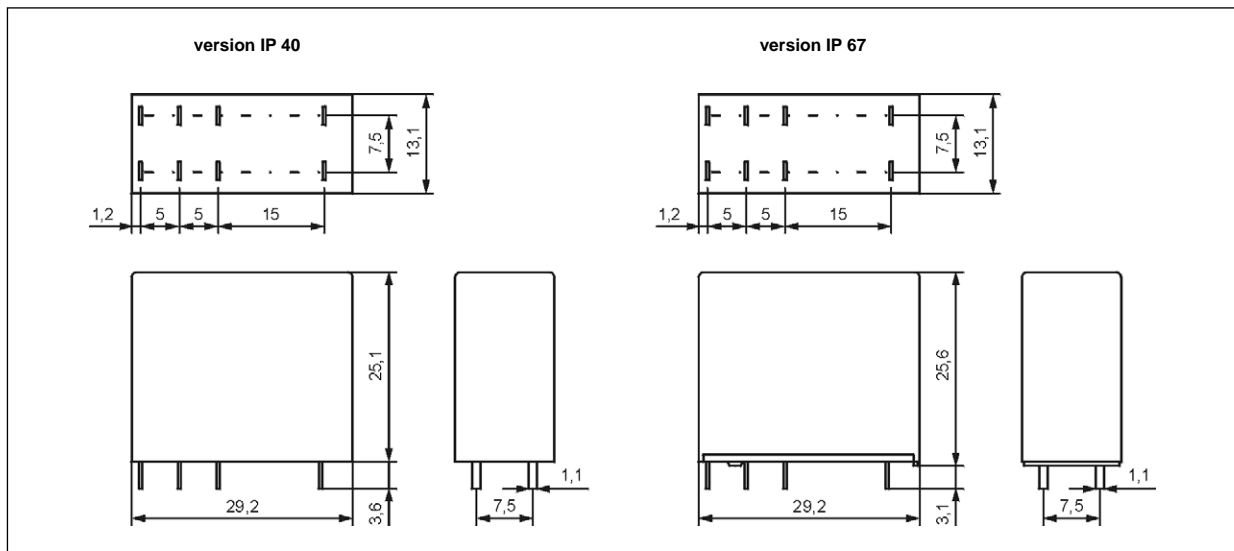
The data in bold type pertain to the standard versions of the relays.

Coil data - DC voltage version, sensitive

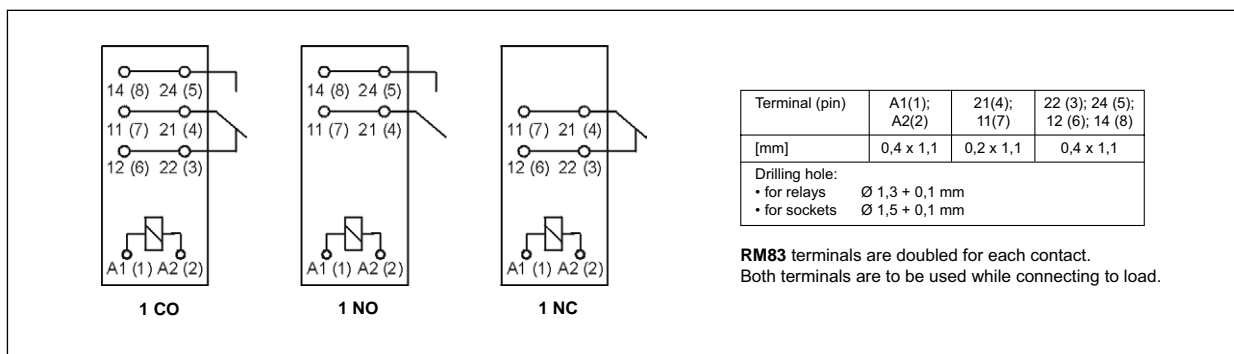
Table 2

Coil code	Rated voltage V DC	Coil resistance at 20 °C Ω	Acceptable resistance	Coil operating range V DC	
				min. (at 20 °C)	max. (at 20 °C)
S110	110	20 500	± 10%	77,0	188,0

Dimensions

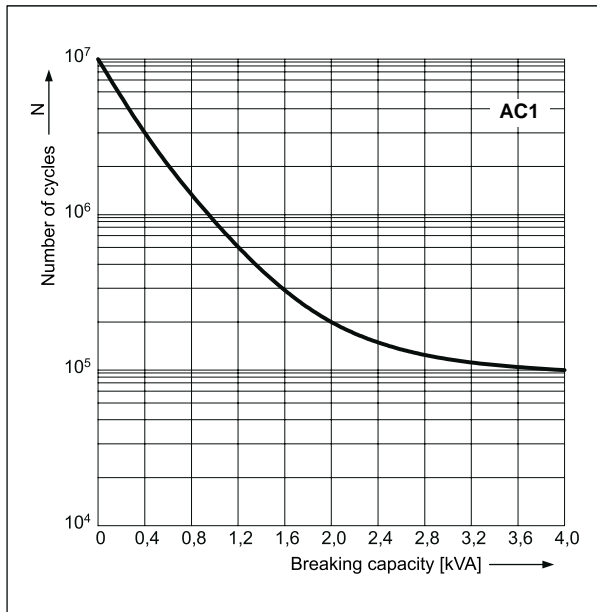


Connection diagrams (pin side view)



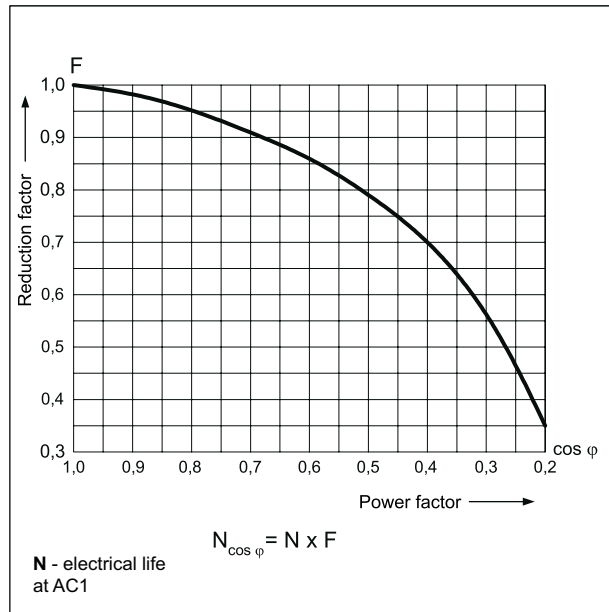
Electrical life at AC resistive load.
Switching frequency: 600 cycles/hour

Fig. 1



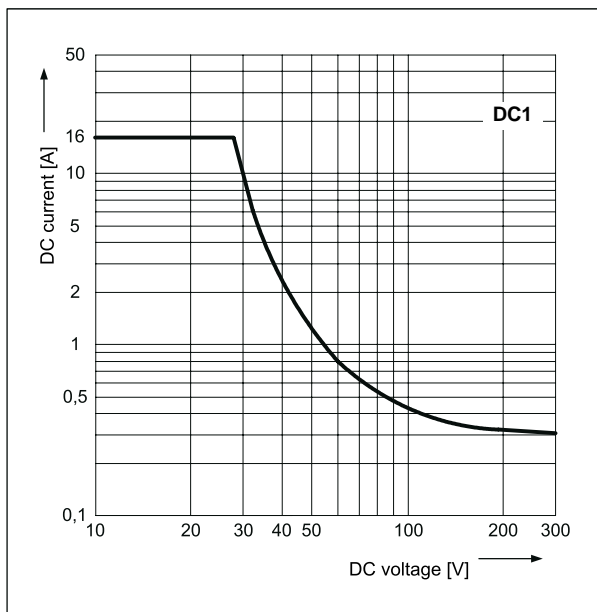
Electrical life reduction factor at AC inductive load

Fig. 2



Max. DC resistive load breaking capacity

Fig. 3

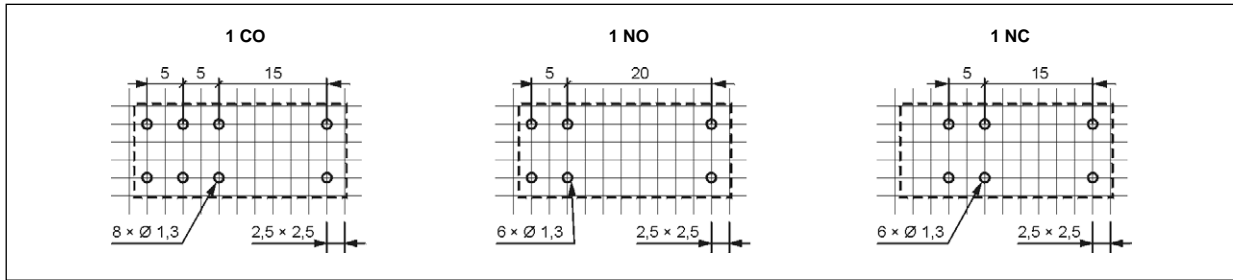


Mounting

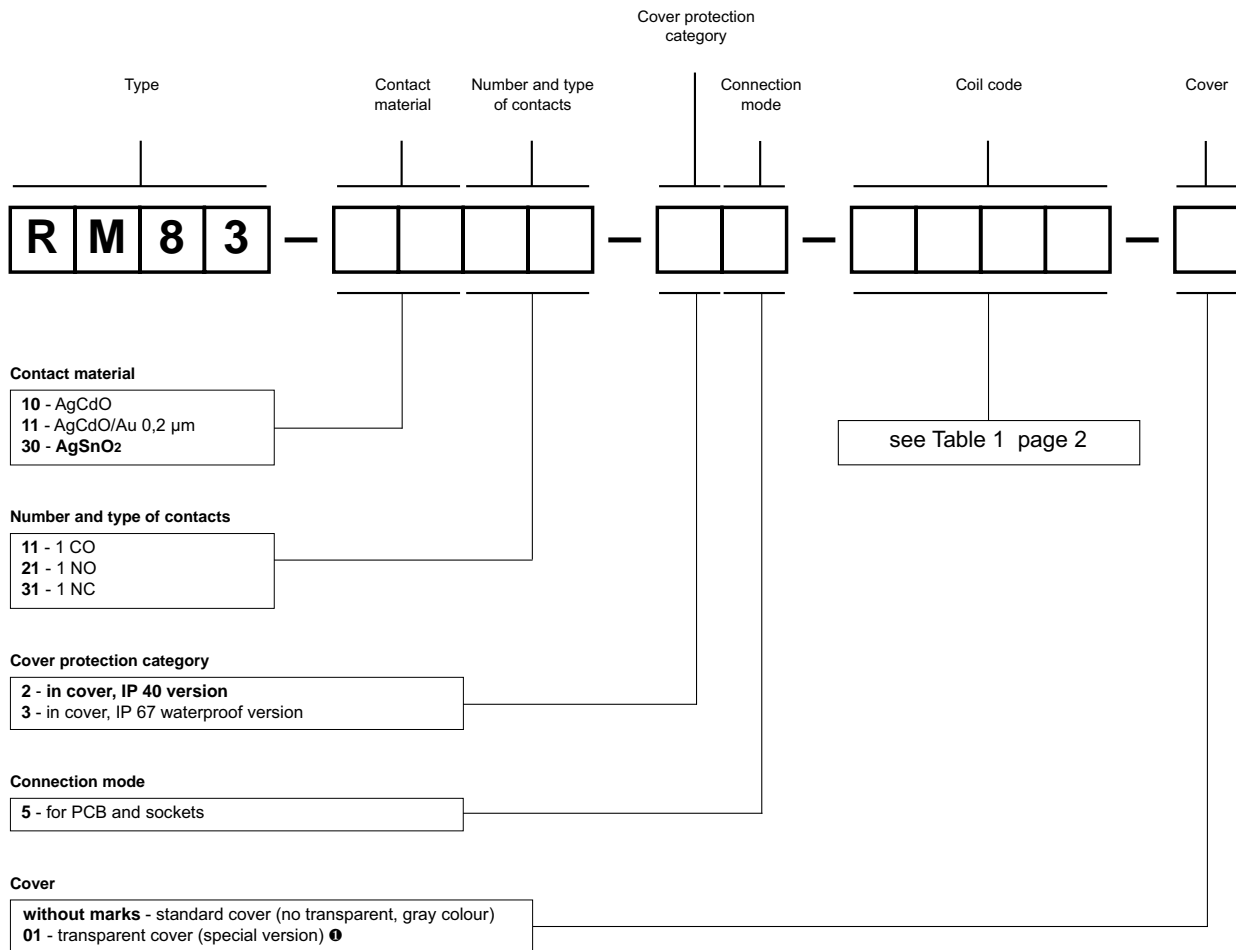
Relays **RM83** are designed for:

- direct PCB mounting
- plug-in sockets for PCB mounting **EC 50** with clip **MP25-2**, MH25-2, GD-0025, RM81-0001; plug-in sockets **PW80** with clip **MH25-2**, GD-0025, RM81-0001; plug-in sockets **GD50** with clip **MP25-2**, GD-0025, MH25-2, RM81-0001.

Pinout (solder side view)



Ordering codes



Examples of ordering code:

RM83-3011-25-1024

relay **RM83**, for PCB and sockets, one changeover contact, contact material AgSnO₂, coil voltage 24 V DC, in standard cover (no transparent, gray colour) IP 40

RM83-3011-25-S110

relay **RM83**, for PCB and sockets, one changeover contact, contact material AgSnO₂, sensitive coil voltage 110 V DC, in standard cover (no transparent, gray colour) IP 40

RM83-3021-35-1012-01

relay **RM83**, for PCB and sockets, one normally open contact, contact material AgSnO₂, coil voltage 12 V DC, in transparent cover (special version) IP 67

Plug-in sockets and accessories

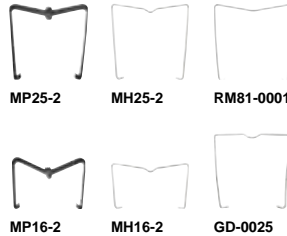
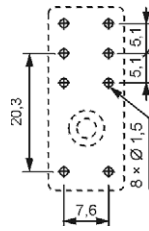
EC 50

For RM84, RM85, RM85 inrush, RM85 105 °C sensitive, RMB841, RMB851, RM87L, RM87L sensitive, RM87P, RM87P sensitive, RM83, RM94

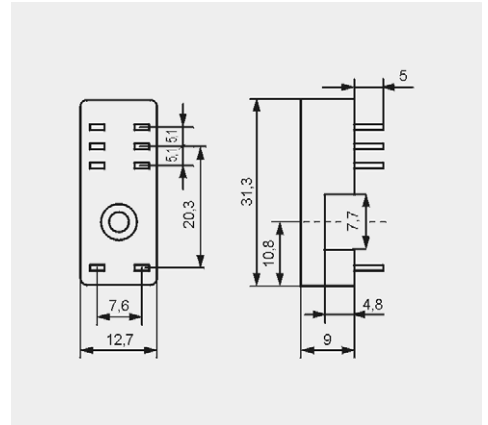
For PCB
31,3 x 12,7 x 9 mm
Two poles, 5 mm pinout
8 A, 300 V AC



Pinout



Dimensions



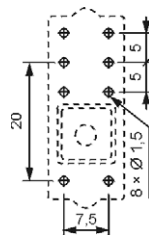
PW80

For RM84, RM85, RM85 inrush, RM85 105 °C sensitive, RMB841, RMB851, RM87L, RM87L sensitive, RM87P, RM87P sensitive, RM83, RM94

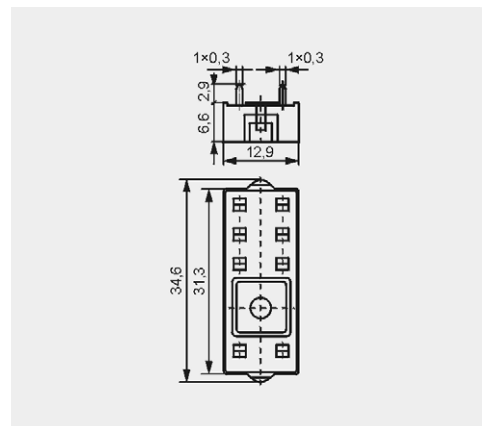
For PCB
34,6 x 12,9 x 6,6 mm
Two poles, 5 mm pinout
8 A, 250 V AC



Pinout



Dimensions



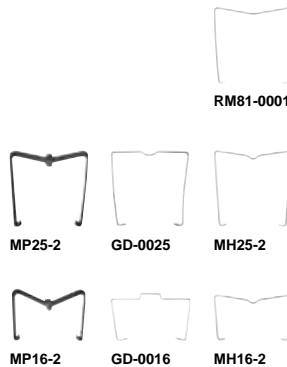
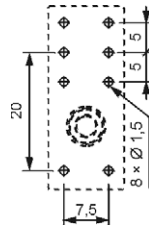
GD50

For RM84, RM85, RM85 inrush, RM85 105 °C sensitive, RMB841, RMB851, RM87L, RM87L sensitive, RM87P, RM87P sensitive, RM83, RM94

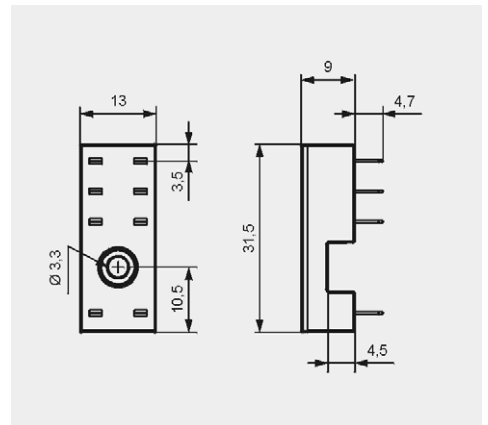
For PCB
31,5 x 13 x 9 mm
Two poles, 5 mm pinout
8 A, 300 V AC



Pinout



Dimensions



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.