

RM83




miniature relays

RM83



RM83-...-01



- 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, insulation class F: 155 °C
- Available special versions: in transparent cover
- Recognitions, certifications, directives: RoHS,   

Contact data

Number and type of contacts		1 CO, 1 NO, 1 NC
Contact material		AgSnO₂
Rated / max. switching voltage	AC	250 V / 400 V
Min. switching voltage		10 V
Rated load (capacity)	AC1	16 A / 250 V AC
	AC15	20 A / 250 V AC (UL)
	DC1	6 A / 120 V
	DC13	3 A / 240 V (A300)
		16 A / 24 V DC (see Fig. 3)
		0,22 A / 120 V
Motor load	acc. to UL 508	1/2 HP
	AC3 acc. to IEC 60947-4-1	240 V AC, 4,9 FLA, single-phase motor ①
		0,65 kW
		240 V AC, single-phase motor
Min. switching current		10 mA
Max. make current		30 A 1 NO, AgSnO ₂
Rated current		16 A
Max. breaking capacity	AC1	4 000 VA
Min. breaking capacity		1 W
Contact resistance		≤ 100 mΩ
Max. operating frequency		
• at rated load	AC1	600 cycles/hour
• no load		72 000 cycles/hour
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 _n
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
• contact clearance		1 000 V AC
		type of insulation: reinforced
		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
• at incandescent lamp load		16 A, 250 V AC
		> 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
• cosφ		2500 W, 230 V AC, 1 NO, AgSnO ₂
• L/R=40 ms		see Fig. 2
		> 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	-40...+85 °C
(non-condensation and/or icing)	• operating	-40...+70 °C
Cover protection category		IP 40 or IP 67
		EN 60529
Environmental protection		RTI 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

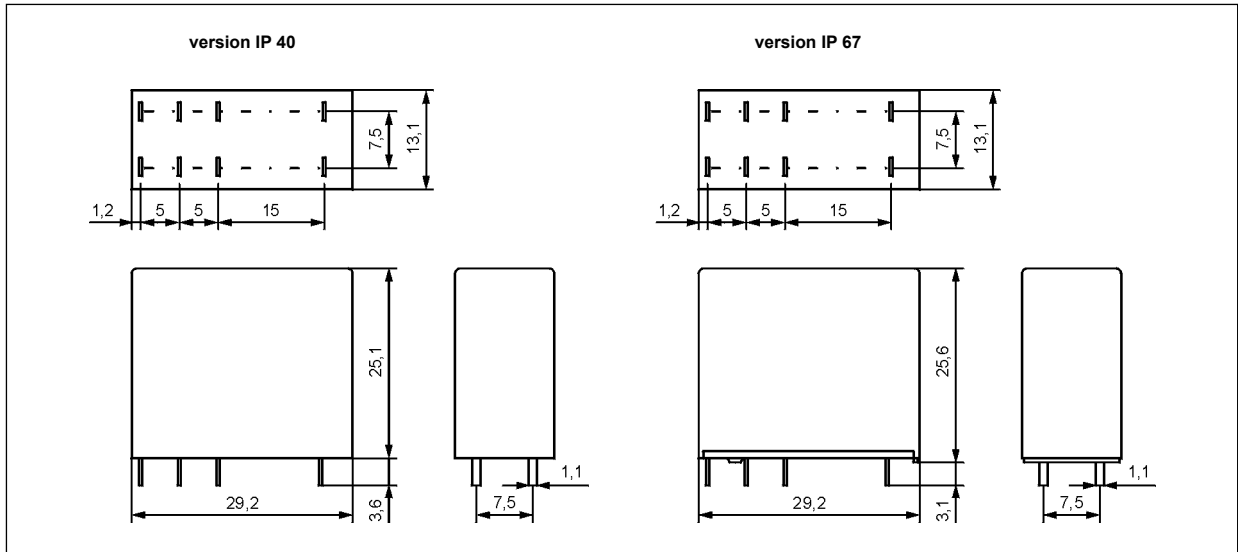
The data in bold type relate to the standard versions of the relays.

① For single phase motors for 110-120 V AC do not use motors with higher FLA than given for 240 V AC.

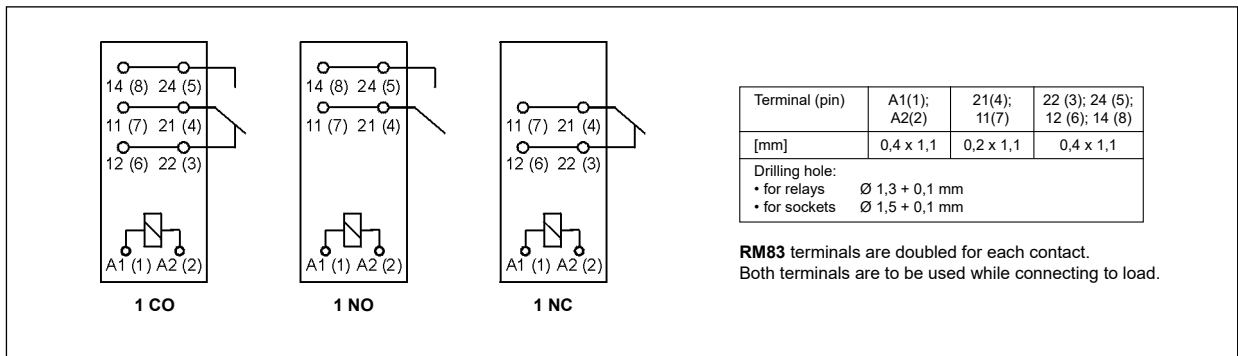
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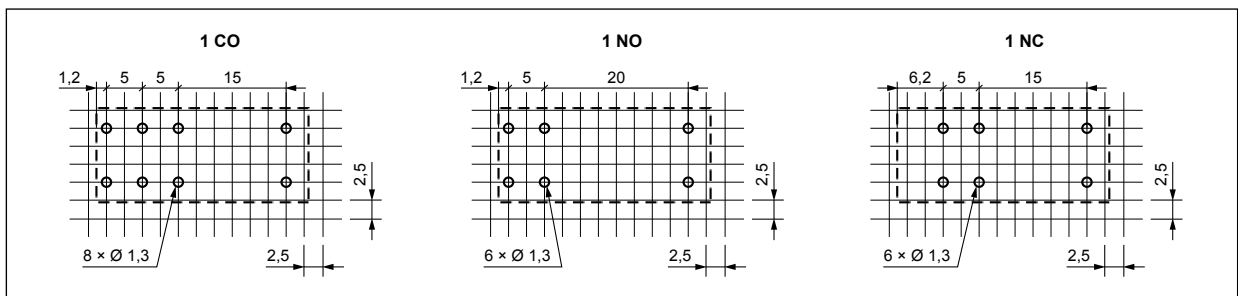
Dimensions



Connection diagrams (pin side view)

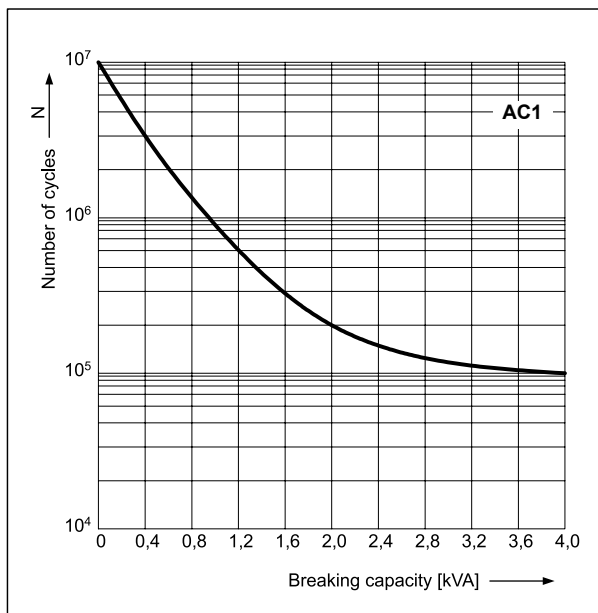


Pinout (solder side view)



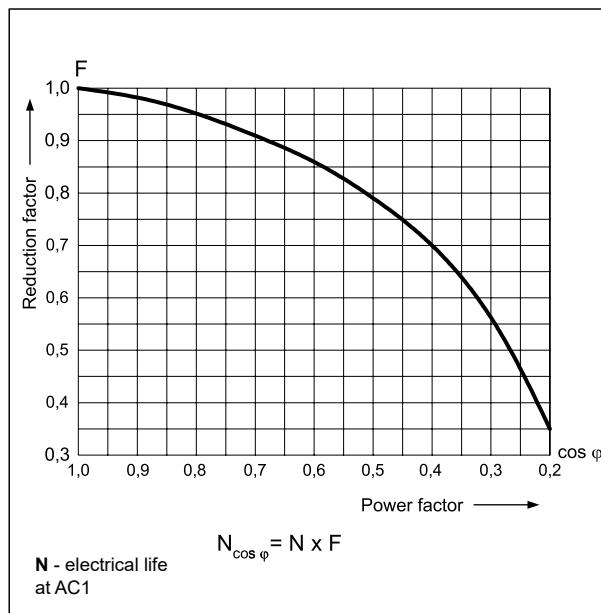
Electrical life at AC resistive load.
Switching frequency: 600 cycles/hour

Fig. 1



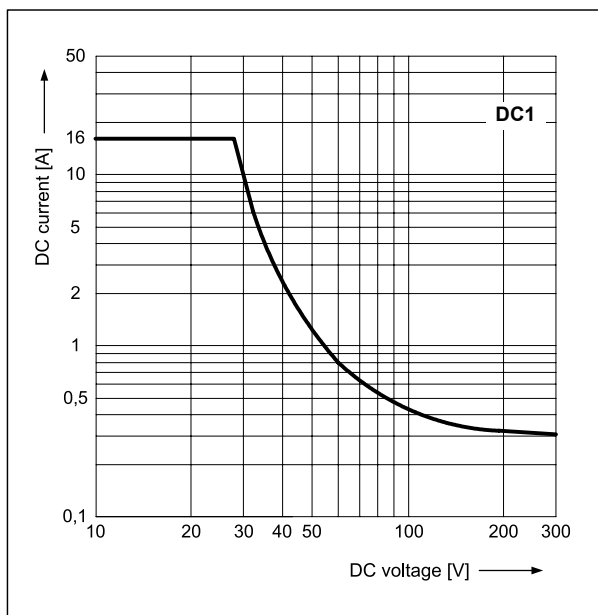
Electrical life reduction factor at AC inductive load

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
Sockets for PCB	
PW80	MH25-2
EC 50	MP25-2 Ⓣ, MH25-2
GD50	MP25-2 Ⓣ, MH25-2

Ⓣ Plastic clips MP25-2.

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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

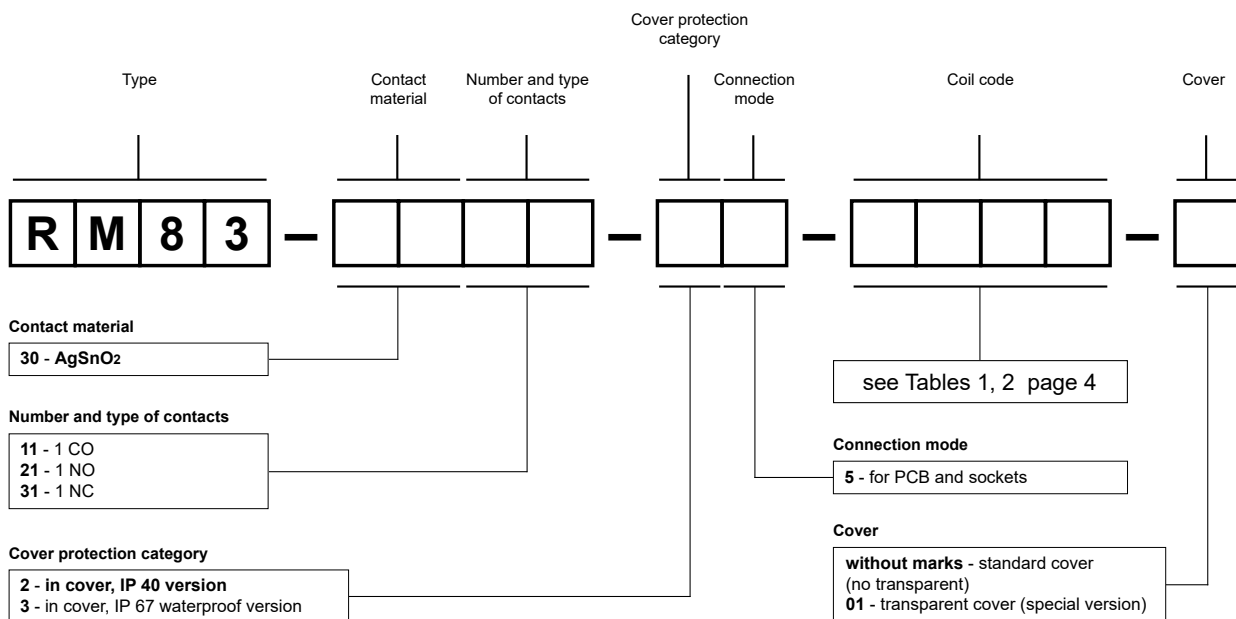
The data in bold type relate to the standard versions of the relays.

Coil data - DC voltage version, sensitive

Table 2

Coil code	Rated voltage V DC	Coil resistance at 20 °C 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

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) 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) IP 40

RM83-3021-35-1012-01

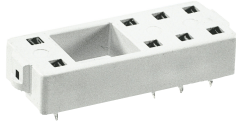
relay **RM83**, for PCB and sockets, one normally open contact, contact material AgSnO₂, coil voltage 12 V DC, in transparent cover (special version) IP 67

Sockets and accessories

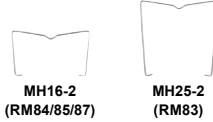
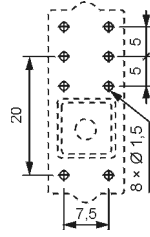
PW80

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

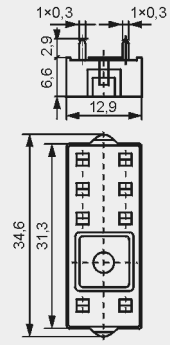
For PCB
34,6 x 12,9 x 6,6 mm
Two poles, 5 mm pinout
12 A, 250 V AC



Pinout



Dimensions

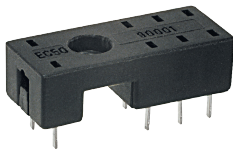


ERC

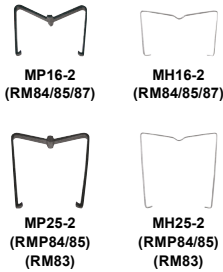
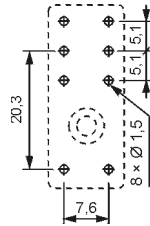
EC 50

For RM84, RM85, RM85 inrush, RM85 105 °C sensitive, RM87L, RM87L sensitive, RM87P, RM87P sensitive, RM83, RMP84, RMP85

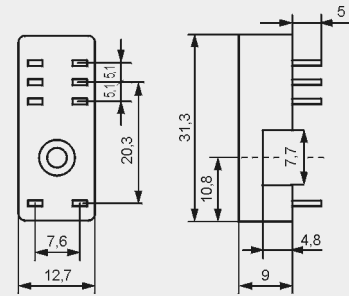
For PCB
31,3 x 12,7 x 9 mm
Two poles, 5 mm pinout
12 A, 250 V AC



Pinout



Dimensions



ERC

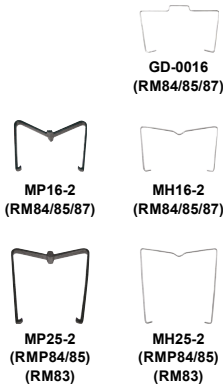
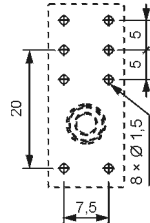
GD50

For RM84, RM85, RM85 inrush, RM85 105 °C sensitive, RM87L, RM87L sensitive, RM87P, RM87P sensitive, RM83, RMP84, RMP85

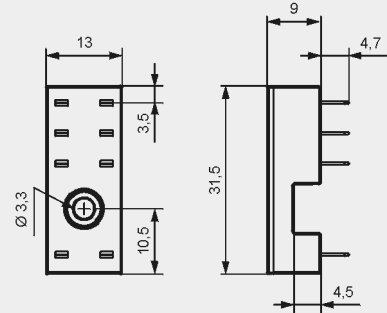
For PCB
31,5 x 13 x 9 mm
Two poles, 5 mm pinout
8 A, 300 V AC



Pinout



Dimensions



ERC

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.