RM83

RM83-...-01

RESISTANCE TO INRUSH CURRENT 120 A (20 ms)

- Miniature dimensions
- General purpose relays, designed for continuous operation*
- **Version 1 NO $AgSnO_2$ - 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		**$AgSnO_2$**	
Rated / max. switching voltage	AC	250 V / 400 V	
Min. switching voltage		10 V	
Rated load (capacity)	AC1	16 A / 250 V AC	20 A / 250 V AC (UL)
	AC15	6 A / 120 V	3 A / 240 V (A300)
	DC1	16 A / 24 V DC (see Fig. 3)	
	DC13	0,22 A / 120 V	0,1 A / 250 V (R300)
Motor load	acc. to UL 508	1/2 HP	240 V AC, 4,9 FLA, single-phase motor ❶
	AC3 acc. to IEC 60947-4-1	0,65 kW	240 V AC, single-phase motor
Min. switching current		10 mA	
Max. make current		30 A 1 NO, $AgSnO_2$	
Max. inrush current		**120 A 20 ms**	
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	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	-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 61810-1
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. *The relays are designed for continuous operation while maintaining the parameters declared in the data sheet. ❶ 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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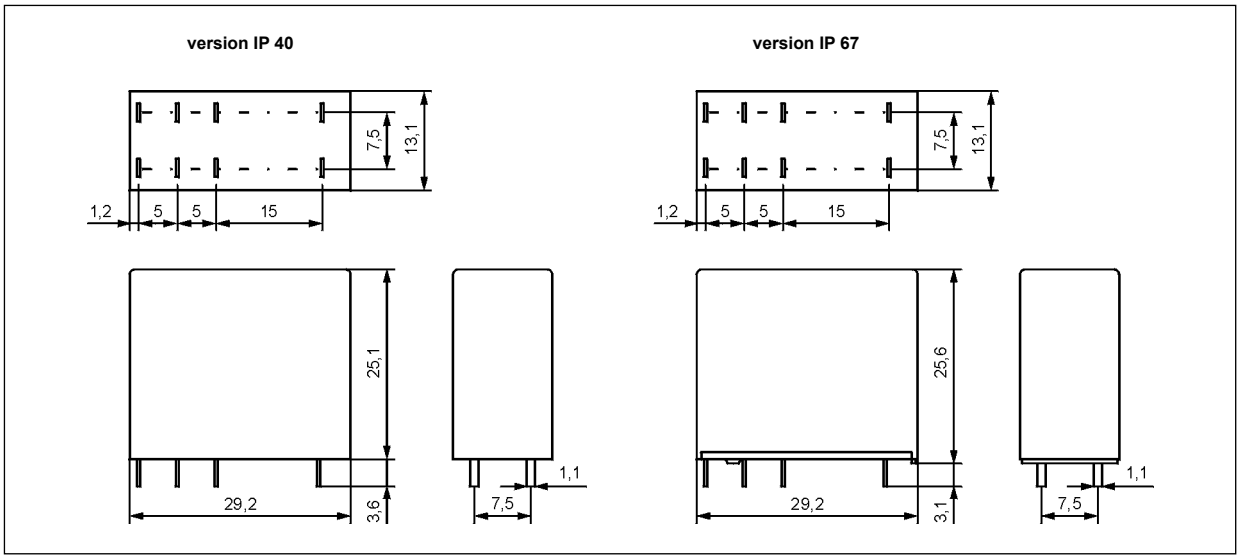
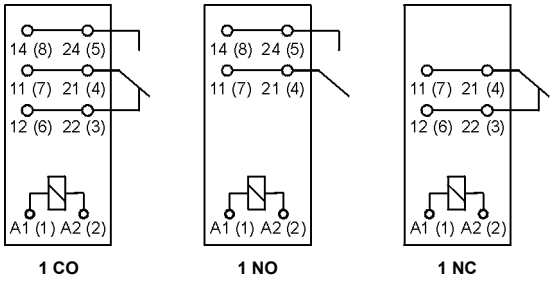
Dimensions



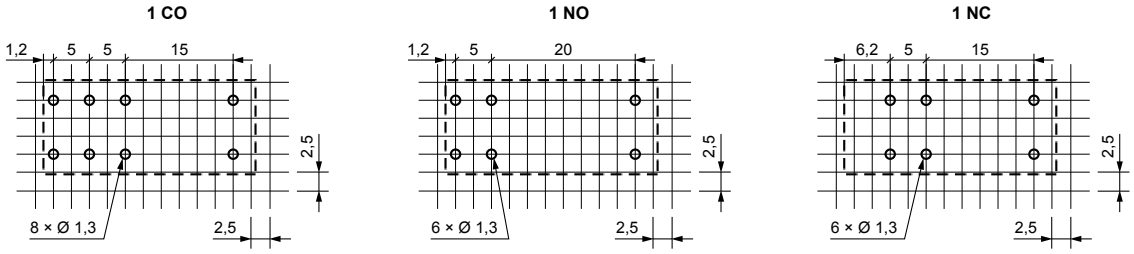
Connection diagrams (pin side view)



Terminal (pin)	A1(1); A2(2)	21(4); 11(7)	22 (3); 24 (5); 12 (6); 14 (8)
[mm]	0,4 x 1,1	0,2 x 1,1	0,4 x 1,1
Drilling hole: • for relays • for sockets	Ø 1,3 + 0,1 mm Ø 1,5 + 0,1 mm		

RM83 terminals are doubled for each contact.
Both terminals are to be used while connecting to load.

Pinout (solder side view)



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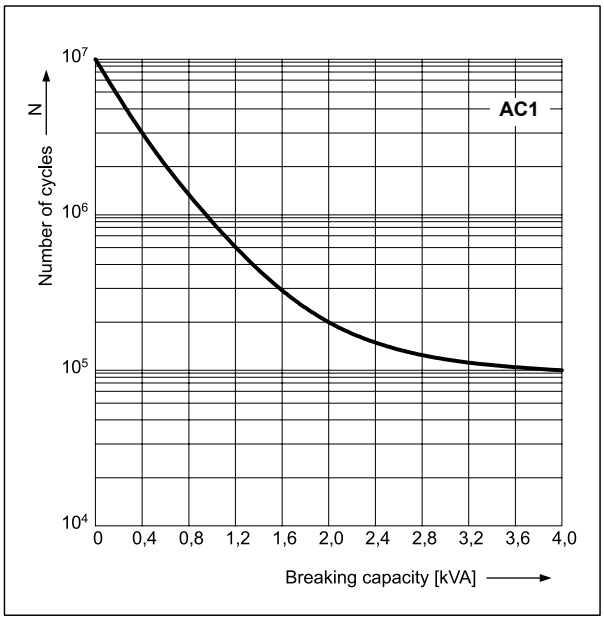
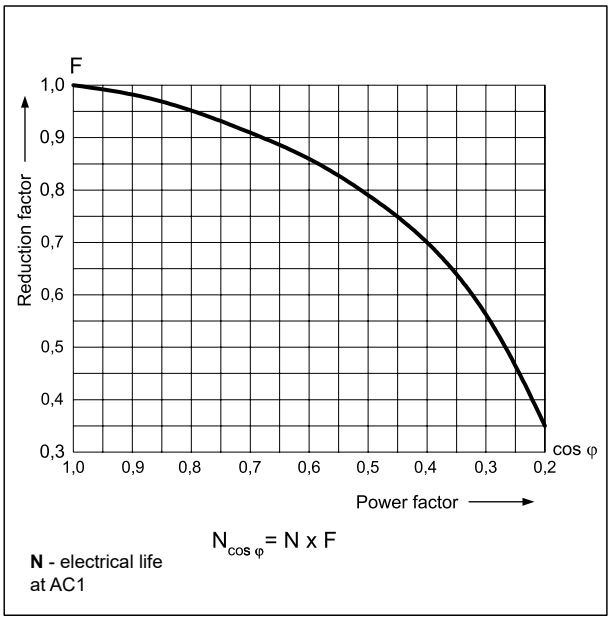
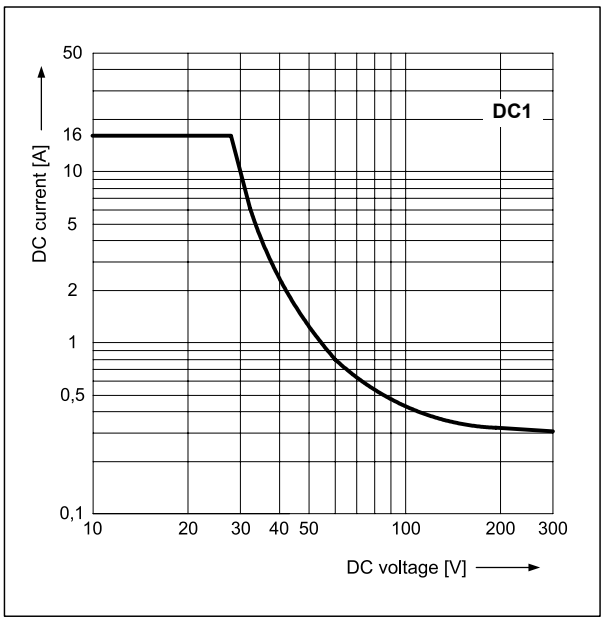
Electrical life at AC resistive load. Switching frequency: 600 cycles/hour — Fig. 1



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	
PW80	MH25-2
EW50	MP25-2 ❷, MH25-2
EC 50	MP25-2 ❷, MH25-2
GD50	MP25-2 ❷, MH25-2

❷ Plastic clips MP25-2.

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.

Coil data - DC voltage version, standard — Table 1

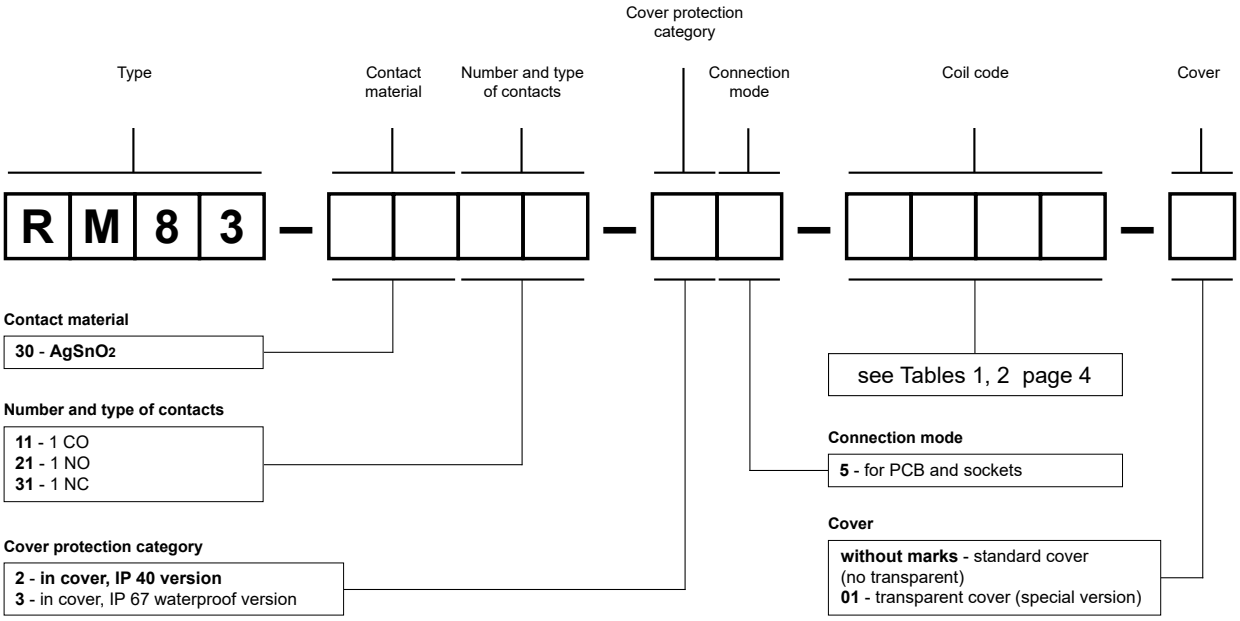
Coil code	Rated voltage V DC	Coil resistance at 20 °C Ω	Acceptable resistance	Coil operating range V DC	
				min. (at 20 °C)	max. (at 20 °C)
1005	5	49	± 10%	3,5	8,9
1006	6	68	± 10%	4,2	10,6
1009	9	110	± 10%	6,3	15,9
1012	**12**	**260**	**± 10%**	**8,4**	**21,2**
1018	18	550	± 10%	12,6	31,8
1024	**24**	**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 $AgSnO_2$, 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 $AgSnO_2$, 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 $AgSnO_2$, coil voltage 12 V DC, in transparent cover (special version) IP 67

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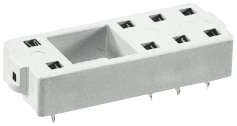
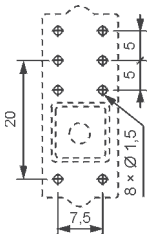
PW80

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

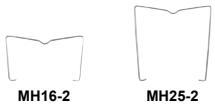
For PCB
34,6 x 12,9 x 6,6 mm
Two poles, 5 mm pinout
12 A, 250 V AC



Pinout

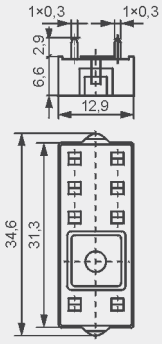


Accessories



MH16-2 (RM84/85/87) | MH25-2 (RM83)

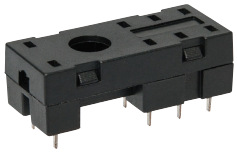
Dimensions



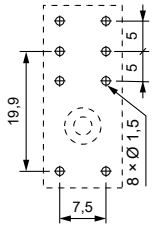
EW50

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

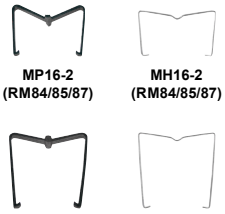
For PCB
30,2 x 13 x 9,4 mm
Two poles, 5 mm pinout
10 A, 250 V AC



Pinout



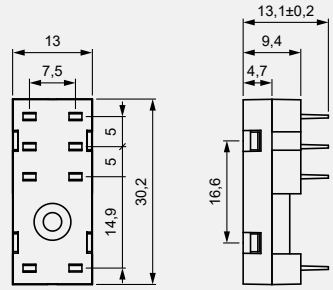
Accessories



MP16-2 (RM84/85/87) | MH16-2 (RM84/85/87)

MP25-2 (RMP84/85) (RM83) | MH25-2 (RMP84/85) (RM83)

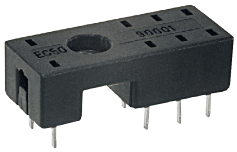
Dimensions



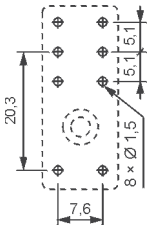
EC 50

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

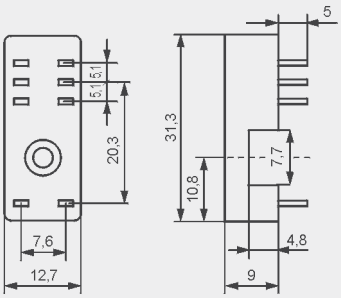


Accessories

MP16-2 (RM84/85/87) | MH16-2 (RM84/85/87)

MP25-2 (RMP84/85) (RM83) | MH25-2 (RMP84/85) (RM83)

Dimensions

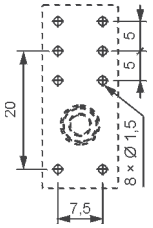


GD50

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



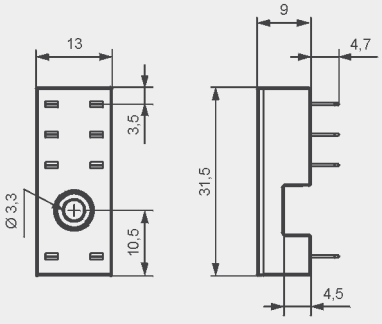
Accessories

GD-0016 (RM84/85/87)

MP16-2 (RM84/85/87) | MH16-2 (RM84/85/87)

MP25-2 (RMP84/85) (RM83) | MH25-2 (RMP84/85) (RM83)

Dimensions



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