

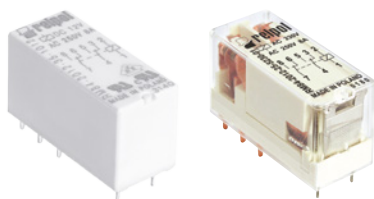
RM84






miniature relays

88

RM84

RM84-...-01 ①



- CTI 250
- 5000 V / 10 mm reinforced insulation
- For PCB and plug-in sockets
- AC and DC coils, insulation class F: 155 °C
- Available special versions: with transparent cover ①;
with the increased dielectric strength of the contact clearance ②
- Compliance with standard EN 60335-1
- Recognitions, certifications, directives: RoHS,     

Contact data

Number and type of contacts		2 CO, 2 NO ②
Contact material		AgNi , AgNi/Au hard gold plating, AgSnO ₂
Rated / max. switching voltage	AC	250 V / 400 V
Min. switching voltage		5 V AgNi, 5 V AgNi/Au hard gold plating, 10 V AgSnO ₂
Rated load (capacity)	AC1	8 A / 250 V AC
	AC15	3 A / 120 V
	DC1	8 A / 24 V DC (see Fig. 3)
	DC13	0,22 A / 120 V
Motor load	acc. to UL 508	1/3 HP
	AC3 acc. to IEC 60947-4-1	0,37 kW
		240 V AC, 3,6 FLA, single-phase motor ③
		240 V AC, single-phase motor
Min. switching current		5 mA AgNi, 2 mA AgNi/Au hard gold plating, 10 mA AgSnO ₂
Max. inrush current		15 A AgSnO ₂
Rated current		8 A
Max. breaking capacity	AC1	2 000 VA
Min. breaking capacity		0,3 W AgNi, 0,05 W AgNi/Au hard gold plating, 1 W AgSnO ₂
Contact resistance		≤ 100 mΩ
Max. operating frequency	• at rated load AC1 • no load	600 cycles/hour 72 000 cycles/hour

Coil data

Rated voltage	50/60 Hz AC	12, 24 , 48, 60, 110, 115, 120, 220, 230 , 240 V
	DC	3, 5, 6, 9, 12 , 18, 24 , 36, 48, 60, 110 V
Must release voltage		AC: ≥ 0,15 U _n DC: ≥ 0,1 U _n
Operating range of supply voltage		see Tables 1, 2 and Fig. 4, 5
Rated power consumption	AC	0,75 VA
	DC	0,4 ... 0,48 W

Insulation according to EN 60664-1

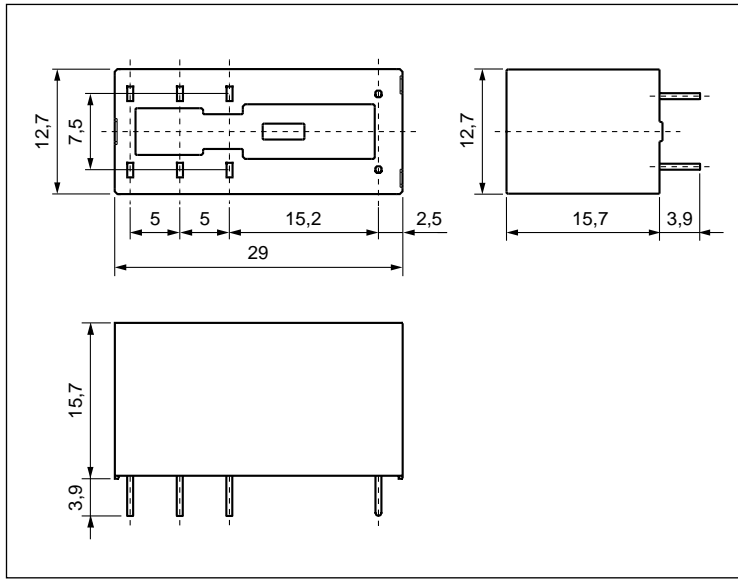
Insulation rated voltage		400 V AC
Rated surge voltage		4 000 V 1,2 / 50 μs
Overvoltage category		III
Insulation pollution degree		3
Dielectric strength	• between coil and contacts • contact clearance • pole - pole	5 000 V AC type of insulation: reinforced 1 000 V AC type of clearance: micro-disconnection 2 000 V AC contacts 2 NO, type of clearance: full-disconnection ② 2 500 V AC type of insulation: basic
Contact - coil distance	• clearance • creepage	≥ 10 mm ≥ 10 mm

General data

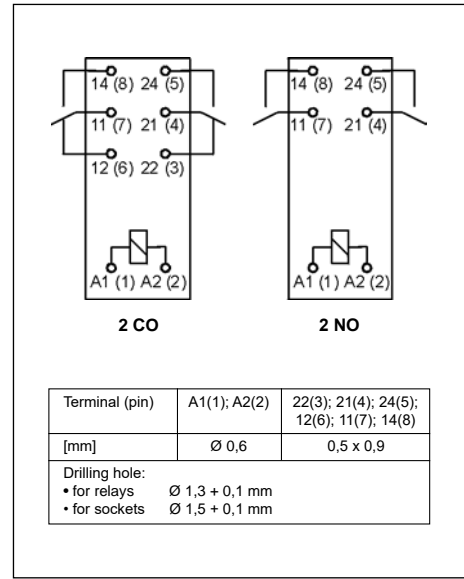
Operating / release time (typical values)		7 ms / 3 ms
Electrical life (number of cycles)	• resistive AC1 • cosφ • DC L/R=40 ms	> 10 ⁵ 8 A, 250 V AC see Fig. 2 > 10 ⁵ 0,15 A, 220 V DC
Mechanical life (cycles)		> 3 x 10 ⁷
Dimensions (L x W x H) / Weight		29 x 12,7 x 15,7 mm / 14 g
Ambient temperature (non-condensation and/or icing)	• storage • operating	-40...+85 °C AC: -40...+70 °C DC: -40...+85 °C -20...+70 °C ①
Cover protection category		IP 40 ① or IP 67 EN 60529
Environmental protection		RTII ① or RTIII EN 61810-7
Shock resistance		20 g
Vibration resistance (NO/NC)		10 g / 5 g 10...150 Hz
Solder bath temperature		max. 270 °C
Soldering time		max. 5 s

The data in bold type relate to the standard versions of the relays. ① Relate to the special versions - relays with transparent cover, only available with IP 40 and RTII, operating temperature -20...+70 °C. See "Ordering codes". ② Relate to the special versions - relays with two normally open contacts 2 NO, with increased contact gap - dielectric strength 2000 V AC, only available with DC coils. See "Ordering codes". ③ For single phase motors for 110-120 V AC do not use motors with higher FLA than given for 240 V AC.

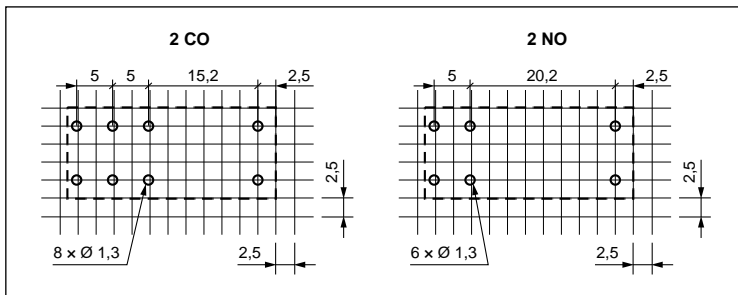
Dimensions



Connection diagrams (pin side view)



Pinout (solder side view)



Mounting, sockets and accessories for relays

Relays **RM84** are designed for: • direct PCB mounting • plug-in sockets.

Sockets for RM84	Accessories			Additional features
	Retainer / retractor clips	Spring wire clips	Description plates	
Screw terminals sockets, 35 mm rail mount (acc. to EN 60715) or on panel mounting (one M3 screw)				
GZT80	GZT80-0040	GZM80-0041	GZT80-0035	modules ⑥, strips ⑦
GZM80	GZT80-0040	GZM80-0041	GZT80-0035	modules ⑥, strips ⑦
GZS80	GZS-0040	GZM80-0041	TR	modules ⑥, strips ⑦
GZF80	–	GZM80-0041	–	–
Spring terminals sockets, 35 mm rail mount (acc. to EN 60715)				
GZMB80 ⑥	GZMB80-0040	GZM80-0041	TR	modules ⑥
Sockets for PCB				
EC 50	–	MP16-2 ⑧, MH16-2	–	–
PW80	–	MH16-2	–	–
GD50	–	MP16-2 ⑧, MH16-2, GD-0016	–	–

① For relays with transparent cover: the distance at least 5 mm between the relays mounted side by side. ⑥ Sockets GZMB80: wire connection - see page 361. ⑧ Signalling / protecting modules type M... - see page 376. ⑦ Interconnection strips ZGGZ80 - see page 377. ⑧ Plastic clips MP16-2.

Coil data - DC voltage version

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)
1003	3	22	± 10%	2,1	7,6
1005	5	60	± 10%	3,5	12,7
1006	6	90	± 10%	4,2	15,3
1009	9	200	± 10%	6,3	22,9
1012	12	360	± 10%	8,4	30,6
1018	18	710	± 10%	12,6	45,9
1024	24	1 440	± 10%	16,8	61,2
1036	36	3 140	± 10%	25,2	91,8
1048	48	5 700	± 10%	33,6	122,4
1060	60	7 500	± 10%	42,0	153,0
1110	110	25 200	± 10%	77,0	280,0

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

Coil data - AC 50/60 Hz voltage version

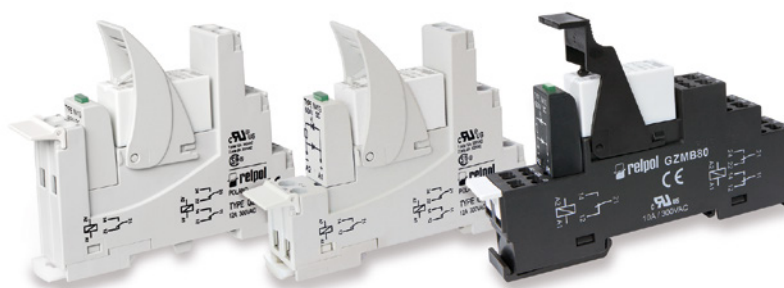
Table 2

Coil code	Rated voltage V AC	Coil resistance at 20 °C Ω	Acceptable resistance	Coil operating range V AC 50 Hz	
				min. (at 20 °C)	max. (at 20 °C)
5012	12	100	± 10%	9,6	13,2
5024	24	400	± 10%	19,2	28,8
5048	48	1 550	± 10%	38,4	57,6
5060	60	2 600	± 10%	48,0	72,0
5110	110	8 900	± 10%	88,0	132,0
5115	115	9 600	± 10%	92,0	138,0
5120	120	10 200	± 10%	96,0	144,0
5220	220	35 500	± 10%	176,0	264,0
5230	230	38 500	± 10%	184,0	276,0
5240	240	42 500	± 15%	192,0	288,0

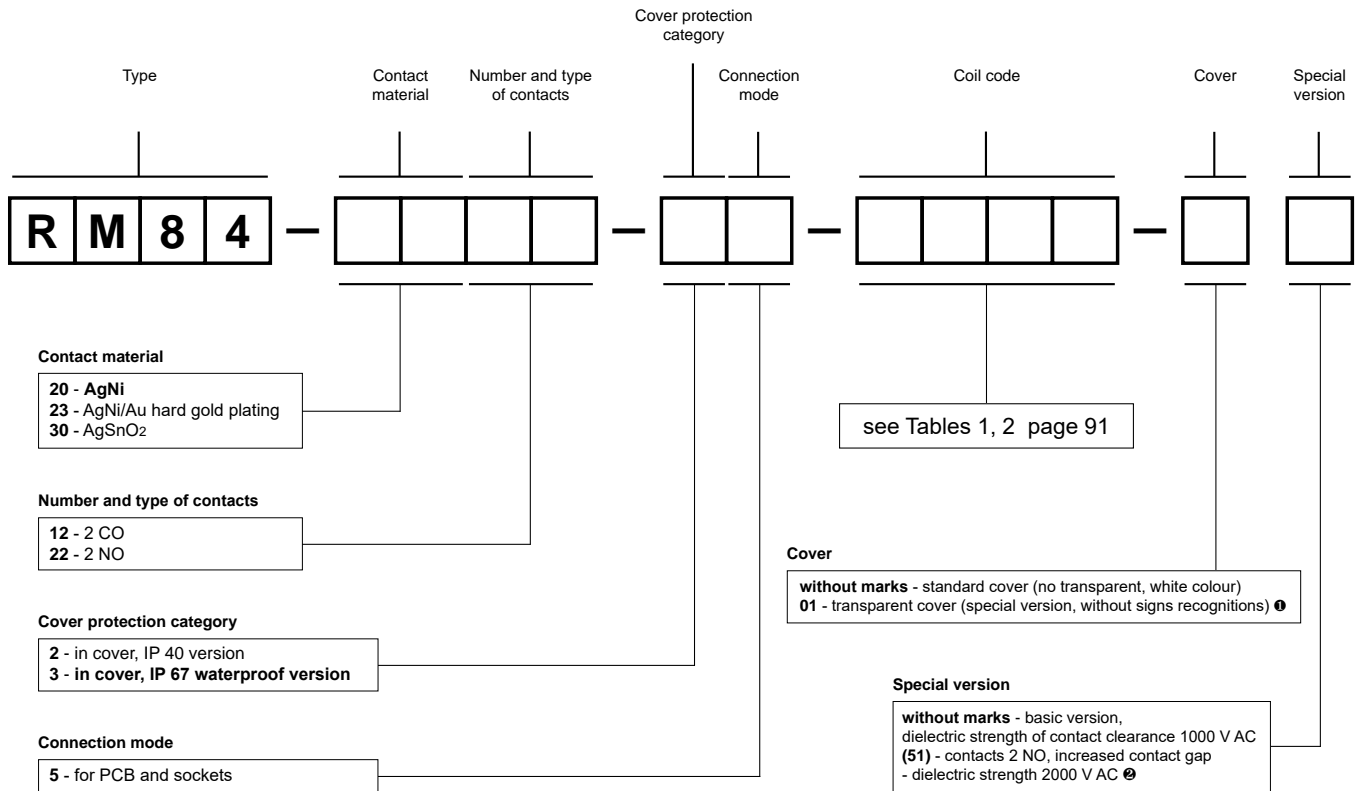
The data in bold type relate to the standard versions of the relays.

Interface relays PI84 (PI85)

- set: relay RM84 (RM85)
- + socket GZT80
- (GZM80, GZMB80)
- see pages 198-225



Ordering codes



❶ 01: special version - relay with transparent cover, only available with IP 40 and RTII, operating temperature -20...+70 °C ❷ (51): special version - relay with two normally open contacts 2 NO, with increased contact gap - dielectric strength 2000 V AC, only available with DC coil

Examples of ordering code:

- RM84-3012-25-5024** relay **RM84**, for PCB and sockets, two changeover contacts, contact material AgSnO₂, coil voltage 24 V AC 50/60 Hz, in standard cover (no transparent, white colour) IP 40
- RM84-2012-25-1012-01** relay **RM84**, for PCB and sockets, two changeover contacts, contact material AgNi, coil voltage 12 V DC with transparent cover (special version, without signs recognitions) IP 40
- RM84-2322-35-1024 (51)** relay **RM84**, special version with increased contact gap, for PCB and sockets, two normally open contacts, contact material AgNi/Au hard gold plating, coil voltage 24 V DC, in standard cover (no transparent, white colour) IP 67