- Cadmium - free contacts
- Height 15,7 mm
- 5000 V / 10 mm reinforced insulation
- For PCB and plug-in sockets
- Accessories: sockets and modules
- AC and DC coils
- Recyclable packing
- Recognitions, certifications, directives: RoHS,

Contact data

Number and type of contacts		2 C/O, 2 NO
Contact material		**AgNi**, AgNi/Au 5 µm, $AgSnO_2$
Max. switching voltage	AC/DC	400 V / 300 V
Min. switching voltage		5 V AgNi, 5 V AgNi/Au 5 µm, 10 V $AgSnO_2$
Rated load	AC1	8 A / 250 V AC
	DC1	8 A / 24 V DC
Min. switching current		5 mA AgNi, 2 mA AgNi/Au 5 µm, 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 5 µm, 1 W $AgSnO_2$
Contact resistance		≤ 100 mΩ
Max. operating frequency		
• at rated load	AC1	600 cycles/hour
• no load		72 000 cycles/hour

Coil data

Rated voltage	50/60 Hz AC	12...240 V
	DC	3...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

Insulation category	C250 / B400
Insulation rated voltage	400 V AC
Rated surge voltage	4 000 V AC
Overvoltage category	III PN-EN 60664-1
Insulation pollution degree	3
Dielectric strength	
• between coil and contacts	5 000 V AC
• contact clearance	1 000 V AC
• pole - pole	2 500 V AC
Contact - coil distance	
• clearance	≥ 10 mm
• creepage	≥ 10 mm

General data

Operating time (typical value)	7 ms
Release time (typical value)	3 ms
Electrical life	
• resistive AC1	> 10^5 8 A, 250 V AC
• cosϕ	see Fig. 2
• L/R=40 ms	> 10^5 0,15 A, 220 V DC
Mechanical life (cycles)	> 3 x 10^7
Dimensions (L x W x H)	29 x 12,7 x 15,7 mm
Weight	14 g
Ambient temperature	
• storage	-40...+85 °C
• operating	AC: -40...+70 °C DC: -40...+85 °C
Cover protection category	IP 40 or **IP 67**
Environmental protection	RTII PN-EN 116000-3
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 pertain to the standard versions of the relays.

Coil data - DC voltage version — Table 1

Coil code	Rated voltage V DC	Coil resistance ±10% at 20 °C Ω	Coil operating range at 20 °C V DC	
			min.	max.
1003	3	22	2,1	7,6
1005	5	60	3,5	12,7
1006	6	90	4,2	15,3
1009	9	200	6,3	22,9
1012	**12**	**360**	**8,4**	**30,6**
1018	18	710	12,6	45,9
1024	**24**	**1 440**	**16,8**	**61,2**
1036	36	3 140	25,2	91,8
1048	48	5 700	33,6	122,4
1060	60	7 500	42,0	153,0
1110	110	25 200	77,0	280,0

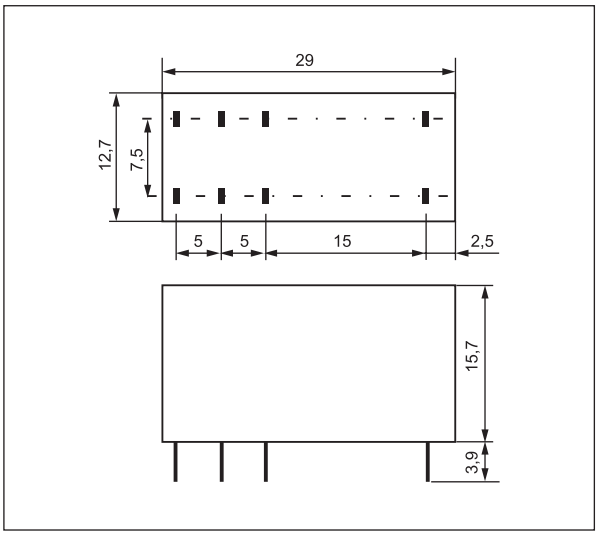
The data in bold type pertain to the standard versions of the relays.

Coil data - AC 50/60 Hz voltage version — Table 2

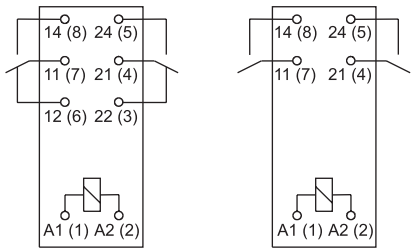
Coil code	Rated voltage V AC	Coil resistance at 20 °C Ω	Acceptable resistance	Coil operating range at 20 °C V AC - 50 Hz	
				min.	max.
5012	12	100	± 10%	9,6	13,2
5024	**24**	**400**	**± 10%**	**19,2**	**28,8**
5048	48	1 550	± 10%	38,4	57,6
5060	60	2 600	± 10%	48,0	72,0
5110	110	8 900	± 10%	88,0	132,0
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 pertain to the standard versions of the relays.

Dimensions



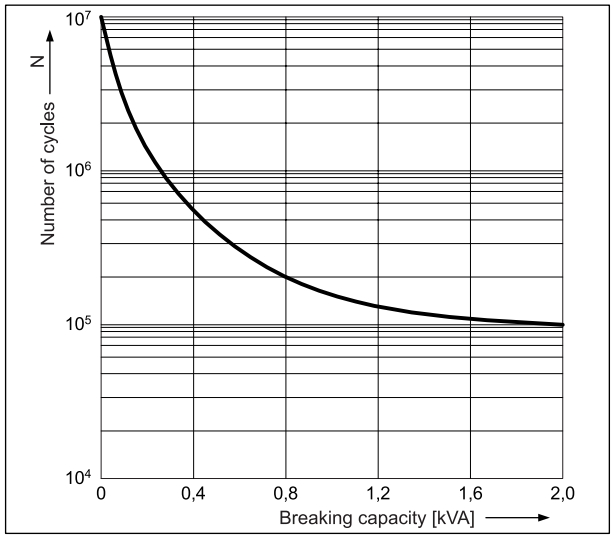
Connections diagrams (pin side view)



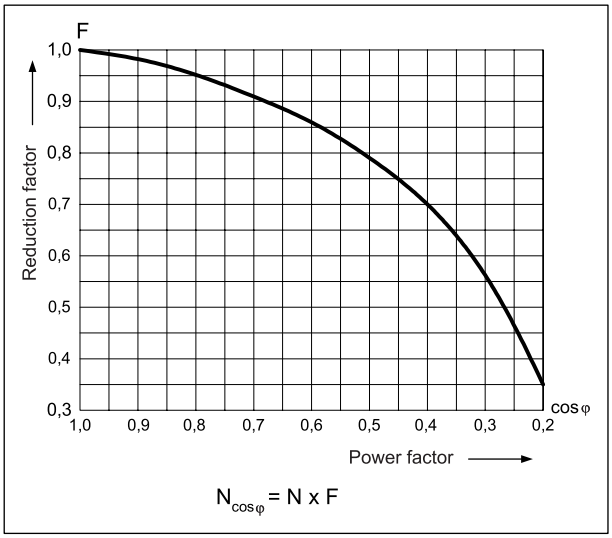
2 C/O **2 NO**

Terminal (pin)	A1(1); A2(2)	22(3); 21(4); 24(5); 12(6); 11(7); 14(8)
[mm]	Ø 0,6	0,5 x 0,9
Drilling hole: • for relays • for sockets	Ø 1,3 + 0,1 mm Ø 1,5 + 0,1 mm	

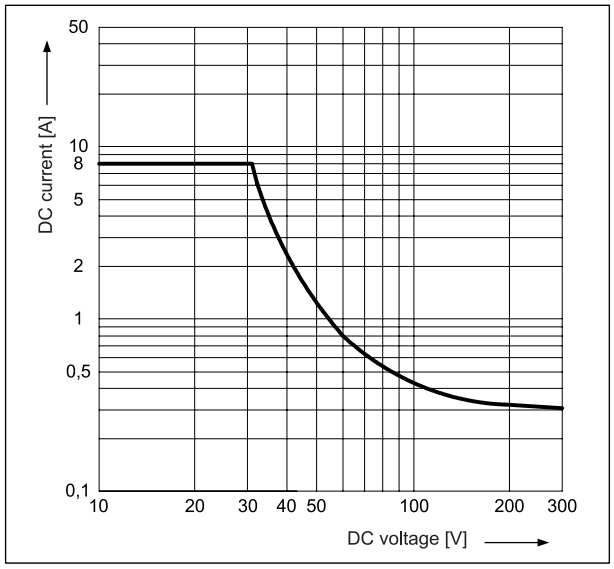
Electrical life at AC resistive load. Maximum switching frequency at rated load Fig. 1



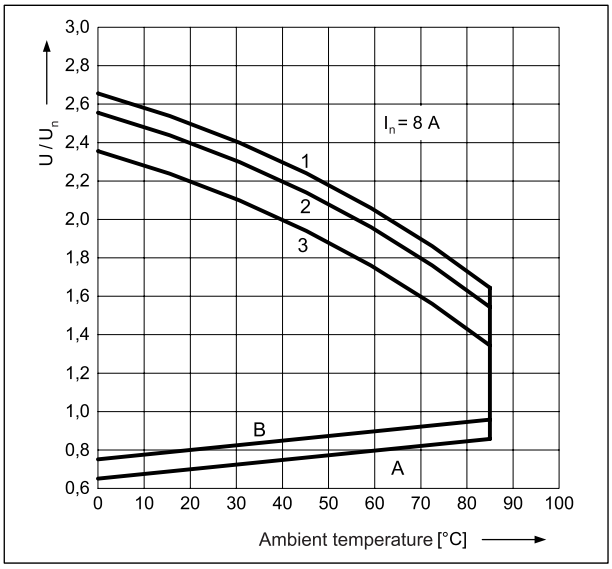
Electrical life reduction factor at AC inductive load Fig. 2



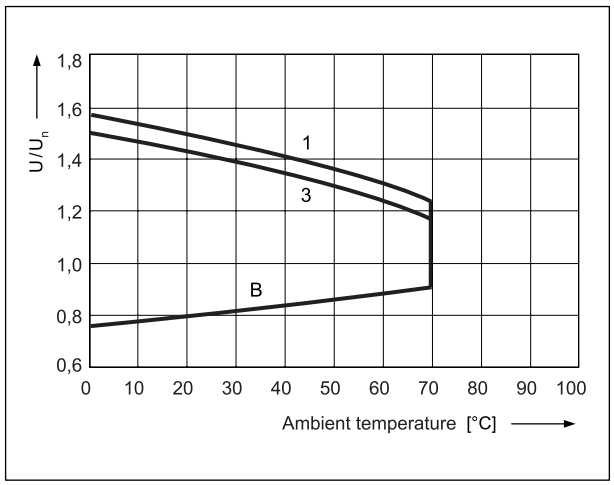
Max. DC resistive load breaking capacity Fig. 3



Coil operating range - DC Fig. 4



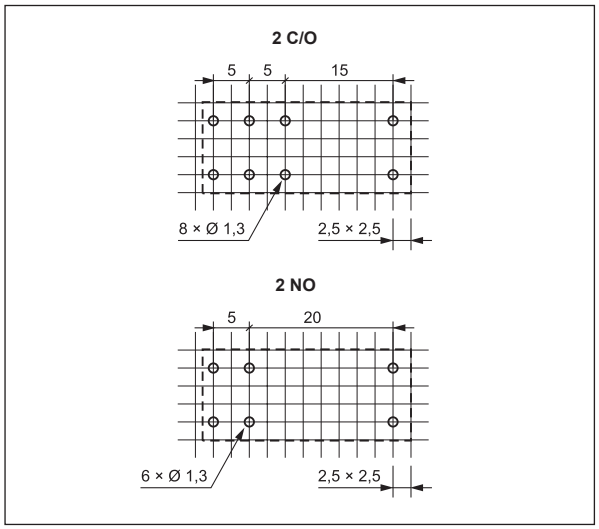
Coil operating range - AC 50 Hz Fig. 5



Description of Fig. 4 and 5

A - relations between make voltage and ambient temperature at no load on contacts. Coil temperature and ambient temperature are equal before coil energizing. Make voltage is not higher than the value read on Y axis (multiplication of rated voltage).
B - relations between make voltage and ambient temperature after initial coil heating up with 1,1 U_n, at continues load of I_n on contacts. Make voltage is not higher than the value read on Y axis (multiplication of rated voltage).
1, 2, 3 - values on Y axis represent allowed overvoltage on coil at certain ambient temperature and contact load:
1 - no load
2 - 50% of rated load
3 - rated load

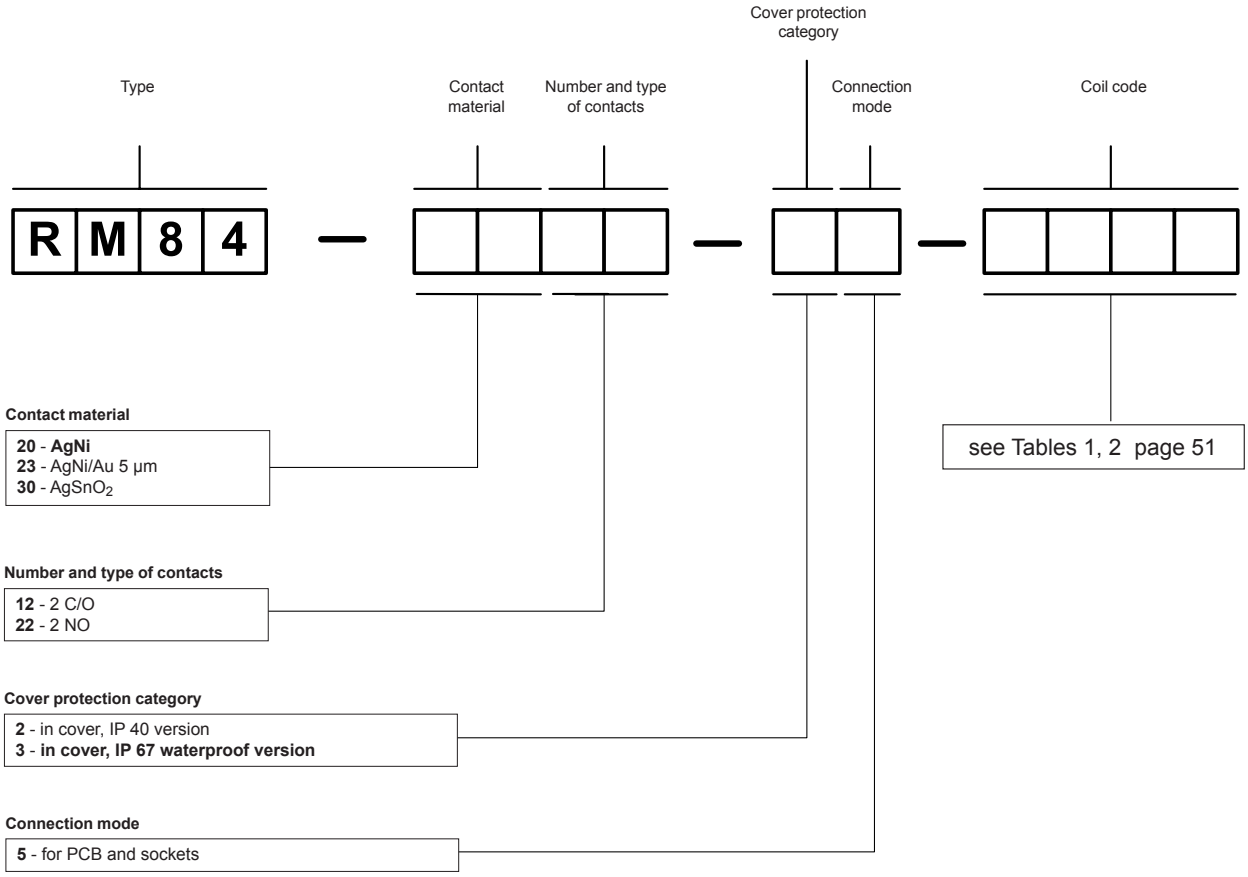
Mounting openings raster
(solder side view)



Mounting

Relays **RM84** are designed for: • direct PCB mounting • screw terminals plug-in sockets **GZT80** and **GZM80** with clip **GZT80-0040**, 35 mm DIN rail mount, EN 50022 or on panel mounting. Signalling / protecting modules **type M...** are available with sockets (see page 198) • plug-in sockets for PCB mounting **PW80** and **EC50** with clip **MH16-2**.

Ordering codes



Example of ordering code:

RM84-3012-25-1012 relay **RM84**, contact material $AgSnO_2$, with two changeover contacts, in cover IP 40, for PCB and sockets, voltage version 12 V DC