








- 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		1 C/O, 1 NO	
Contact material		AgNi , AgSnO ₂	
Rated / max. switching voltage	AC	250 V / 440 V	
Min. switching voltage		5 V AgNi, 10 V AgSnO ₂	
Rated load (capacity)	AC1	16 A / 250 V AC	
	AC15	3 A / 120 V 1,5 A / 240 V (B300)	
	AC3	750 W (single-phase motor)	
	DC1	16 A / 24 V DC (see Fig. 3)	
	DC13	0,22 A / 120 V 0,1 A / 250 V (R300)	
Min. switching current		5 mA AgNi, 10 mA AgSnO ₂	
Max. inrush current		30 A AgSnO ₂	
Rated current		16 A	
Max. breaking capacity	AC1	4 000 VA	
Min. breaking capacity		0,3 W AgNi, 1 W AgSnO ₂	
Contact resistance		≤ 100 mΩ	
Max. operating frequency	AC1	• at rated load	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 according to PN-EN 60664-1

Insulation rated voltage		400 V AC
Rated surge voltage		4 000 V 1,2 / 50 μs
Overtoltage category		III
Insulation pollution degree		3
Dielectric strength	• between coil and contacts	5 000 V AC type of insulation: reinforced
	• contact clearance	1 000 V AC type of clearance: micro-disconnection
Contact - coil distance	• clearance	≥ 10 mm
	• creepage	≥ 10 mm

General data

Operating / release time (typical values)		7 ms / 3 ms
Electrical life	• resistive AC1	> 0,7 x 10 ⁵ 16 A, 250 V AC
		> 10 ⁴ 20 A, 250 V AC, 85 °C (RM85-3021-25-1...)
	• cos φ	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 PN-EN 60529
Environmental protection		RTII PN-EN 116000-3
Shock resistance		30 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.

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.

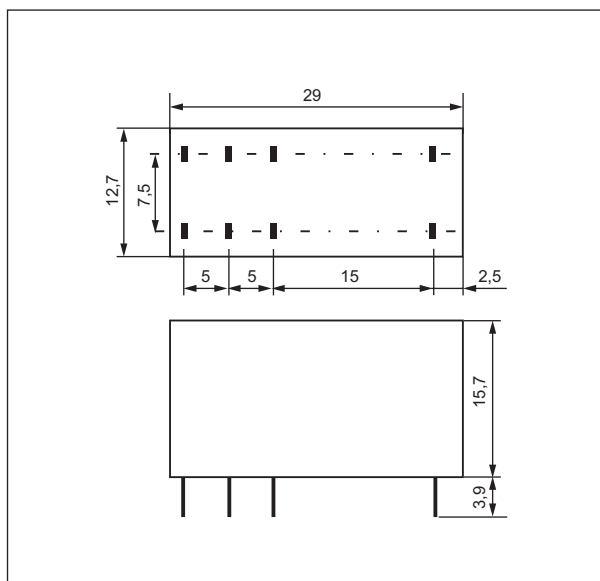
Coil data - AC 50/60 Hz voltage version

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

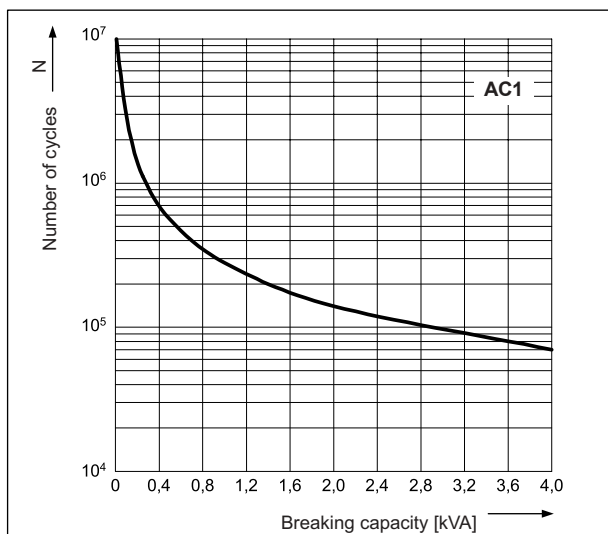


Connection diagrams (pin side view)

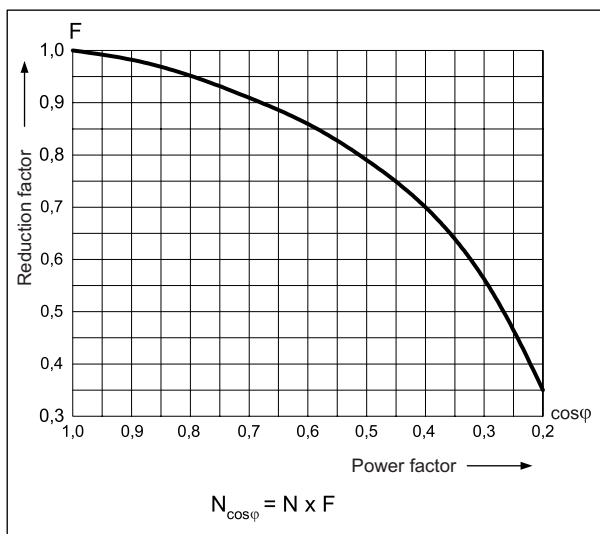
Terminal (pin)	A1(1); A2(2)	22(3); 21(4); 24(5); 12(6); 11(7); 14(8)
[mm]	∅ 0,6	0,5 x 0,9
Drilling hole:		
• for relays	∅ 1,3 + 0,1 mm	
• for sockets	∅ 1,5 + 0,1 mm	

RM85 terminals are doubled for each contact.
Both terminals are to be used while connecting to load.

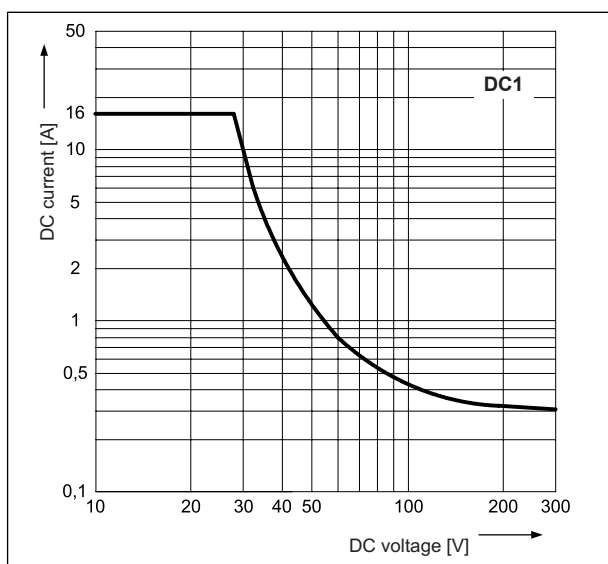
Electrical life at AC resistive load.
Maximum switching frequency at rated load Fig. 1



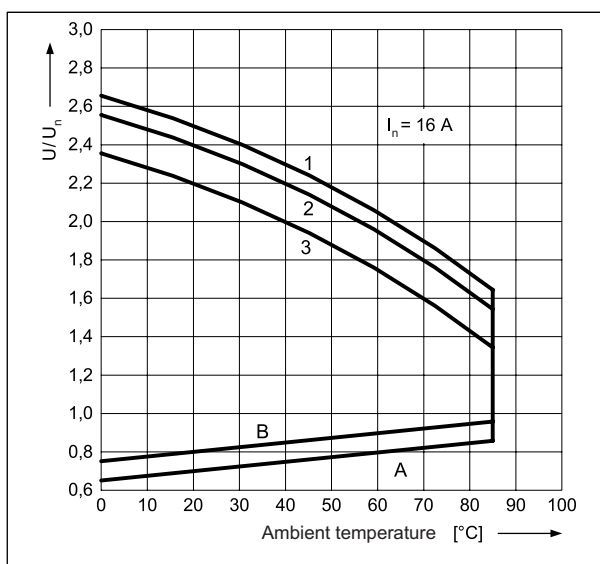
Electrical life reduction factor
at AC inductive load Fig. 2



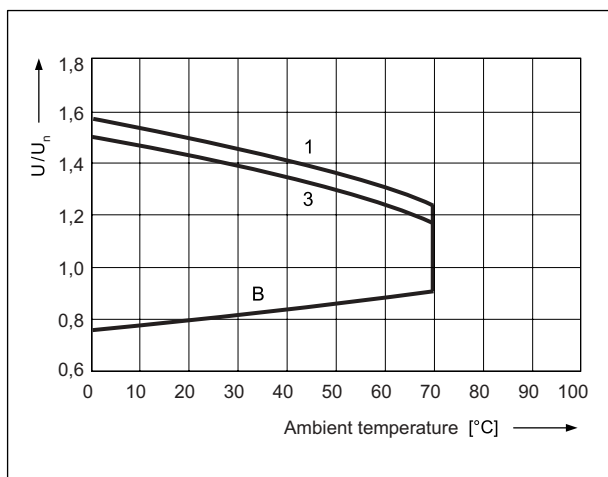
Max. DC resistive load breaking capacity Fig. 3



Coil operating range - DC Fig. 4



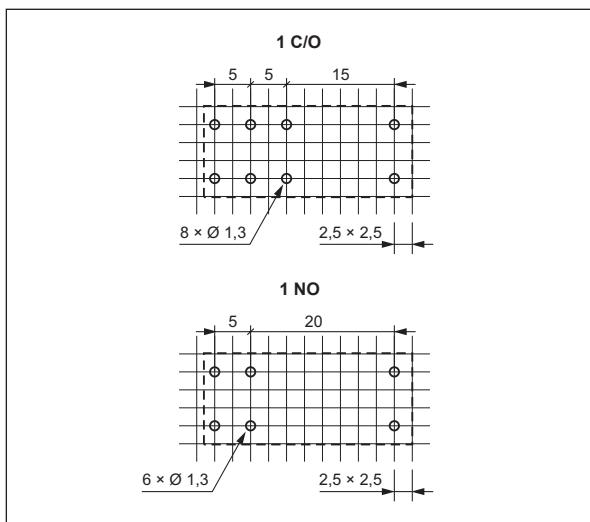
Coil operating range - AC 50 Hz Fig. 5



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

Pinout (solder side view)



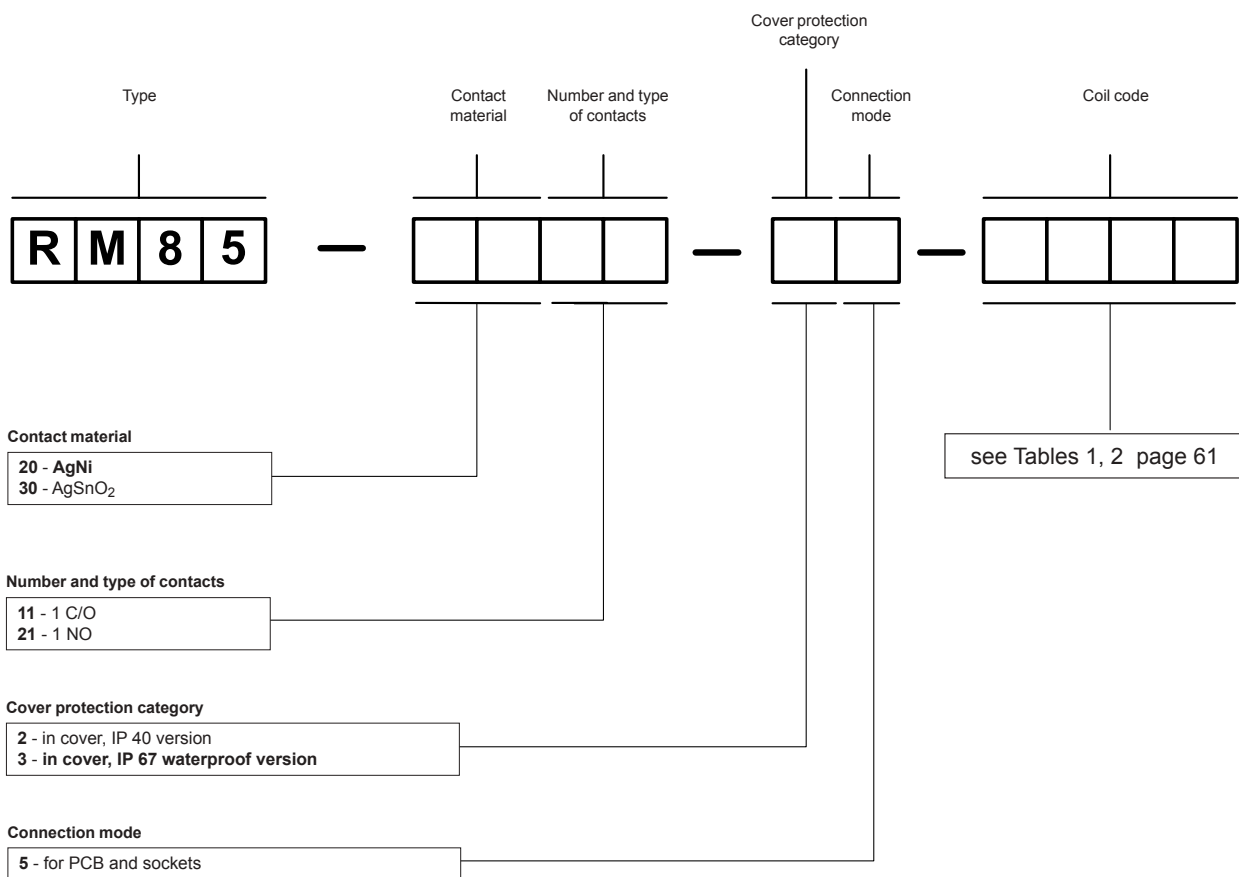
Mounting

Relays **RM85** are designed for:

- direct PCB mounting
- screw terminals plug-in sockets **GZT80** and **GZM80** ① with clip **GZT80-0040** or **GZM80-0041**; plug-in sockets **GZS80** ① with clip **GZS-0040** or **GZM80-0041**, 35 mm rail mount acc. to PN-EN 60715 or on panel mounting with one M3 screw. Signalling / protecting modules **type M...** are available with sockets (see page 241)
- plug-in sockets for PCB mounting **EC50** and **PW80** with clip **MH16-2**; plug-in sockets **GD50** with clip **GD-0016**.

① Plug-in sockets **GZT80**, **GZM80** and **GZS80** may be linked with interconnection strip type **ZGGZ80** (see page 251).

Ordering codes



Example of ordering code:

RM85-2011-25-1012 relay **RM85**, contact material AgNi, with one changeover contact, in cover IP 40, for PCB and sockets, voltage version 12 V DC