




RM96

miniature relays



- Height 16,2 mm • IP 40 and IP 67
- For PCB (1 CO, 1 NO, 1 NC) and plug-in sockets (1 CO)
- Accessories: sockets and modules for 1 CO
- DC coils
- Recyclable packing
- Terminals: 3,2 mm for version 1 CO,
5,0 mm for version 1 NO and 1 NC
- Recognitions, certifications, directives: RoHS,   

Contact data

Number and type of contacts		1 CO, 1 NO, 1 NC
Contact material		AgSnO₂ , AgSnO ₂ /Au 3 μm, AgCdO
Rated / max. switching voltage	AC	250 V / 440 V
Min. switching voltage		10 V AgSnO ₂ , 5 V AgSnO ₂ /Au 3 μm, 10 V AgCdO
Rated load (capacity)	AC1	8 A / 250 V AC
	AC15	3 A / 120 V 1,5 A / 240 V (B300)
	AC3	370 W (single-phase motor; 0,5 HP / 250 V AC UL 508)
	DC1	8 A / 24 V DC (see Fig. 3)
	DC13	0,22 A / 120 V 0,1 A / 250 V (R300)
Min. switching current		10 mA AgSnO ₂ , 2 mA AgSnO ₂ /Au 3 μm, 5 mA AgCdO
Max. inrush current		15 A
Rated current		8 A
Max. breaking capacity	AC1	2 000 VA
Min. breaking capacity		1 W AgSnO ₂ , 0,05 W AgSnO ₂ /Au 3 μm, 0,5 W AgCdO
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 ... 48 V
Must release voltage		DC: ≥ 0,1 U _n
Operating range of supply voltage		see Table 1 and Fig. 4
Rated power consumption	DC	0,22...0,3 W

Insulation according to PN-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		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)		10 ms / 5 ms
Electrical life (number of cycles)		
• resistive AC1		> 10 ⁵ 8 A, 250 V AC
• cosφ		see Fig. 2
Mechanical life (cycles)		> 2 x 10 ⁷
Motor load according to UL 508		0,25 HP 120 V AC, single-phase motor
Dimensions (L x W x H)		1 CO: 30 x 10 x 16,2 mm 1 NO, 1 NC: 28 x 10 x 16,2 mm
Weight		11 g
Ambient temperature	• storage • operating	-40...+85 °C -40...+80 °C
Cover protection category		IP 40 or IP 67 PN-EN 60529
Environmental protection		RTII PN-EN 116000-3
Shock resistance		20 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.

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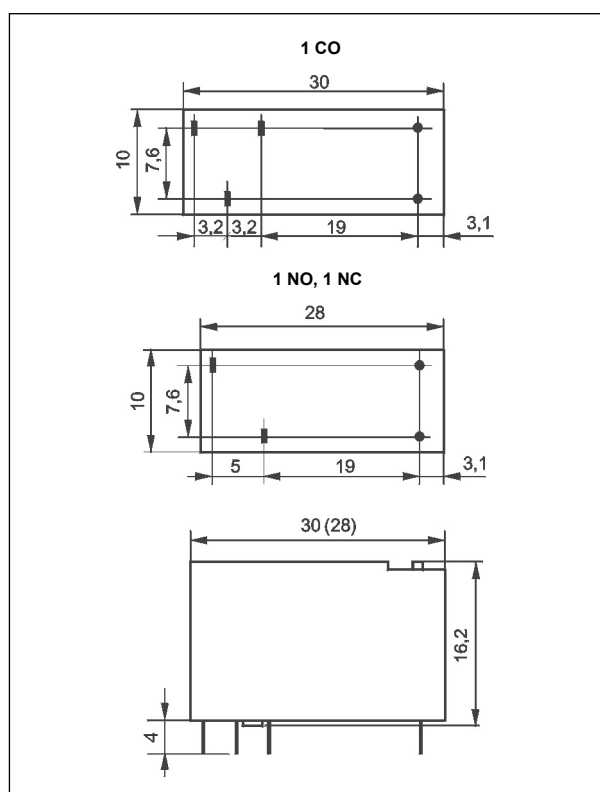
Coil data - DC voltage version

Table 1

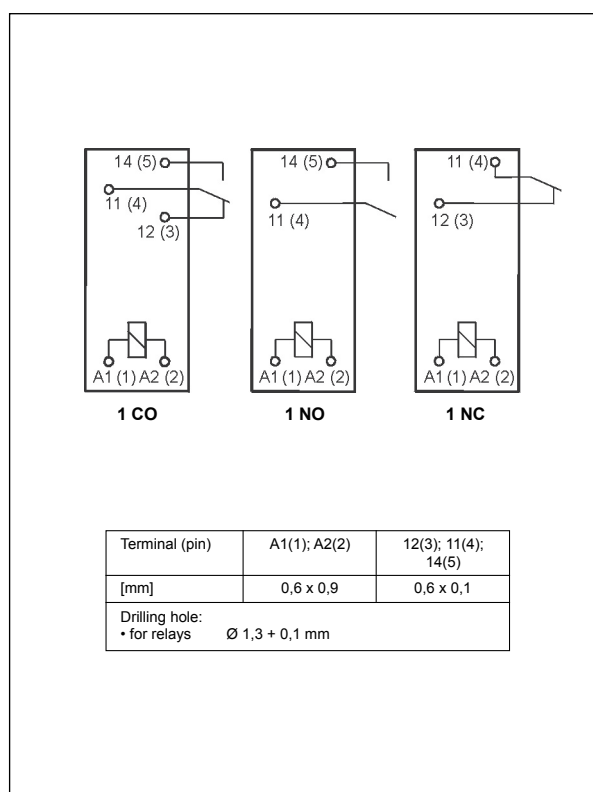
Coil code	Rated voltage V DC	Coil resistance at 20 °C Ω	Acceptable resistance	Coil operating range V DC	
				min. (at 20 °C)	max. (at 20 °C)
1005	5	110	$\pm 10\%$	3,5	12,0
1006	6	160	$\pm 10\%$	4,2	14,5
1009	9	360	$\pm 10\%$	6,3	22,0
1012	12	660	$\pm 10\%$	8,4	29,5
1018	18	1 500	$\pm 10\%$	12,6	44,0
1024	24	2 200	$\pm 10\%$	16,8	54,0
1048	48	8 000	$\pm 10\%$	33,6	102,0

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

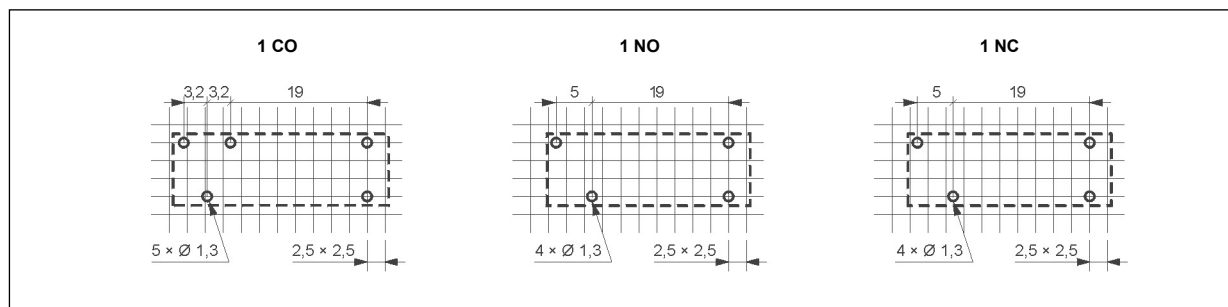
Dimensions



Connection diagrams (pin side view)

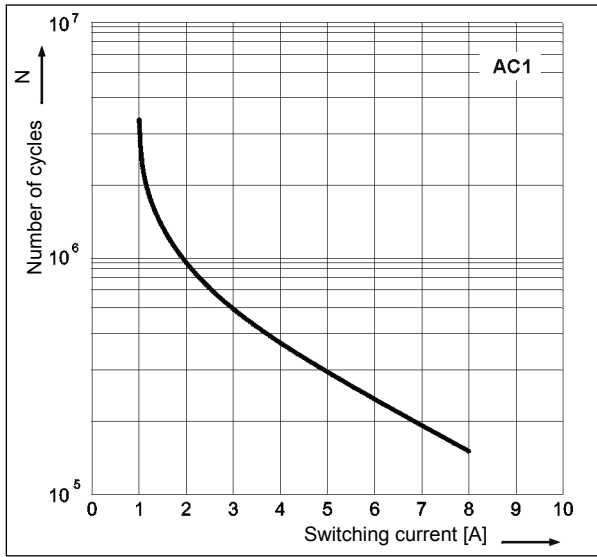


Pinout (solder side view)



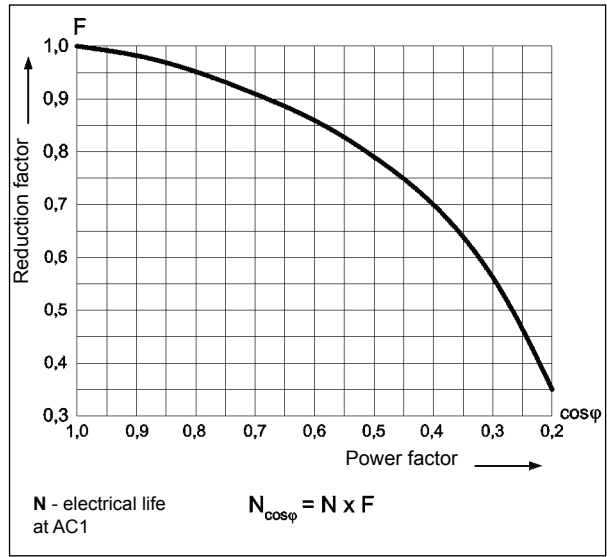
Electrical life at AC resistive current.
 $U_n = 230 \text{ V AC}$ - version 1NO

Fig. 1



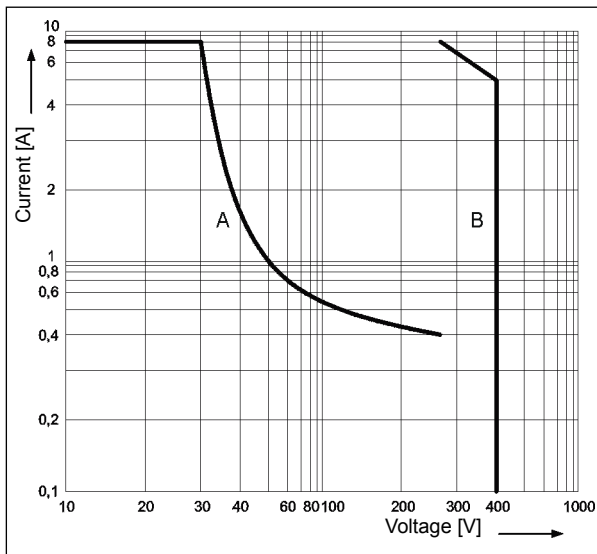
Electrical life reduction factor at AC inductive load

Fig. 2



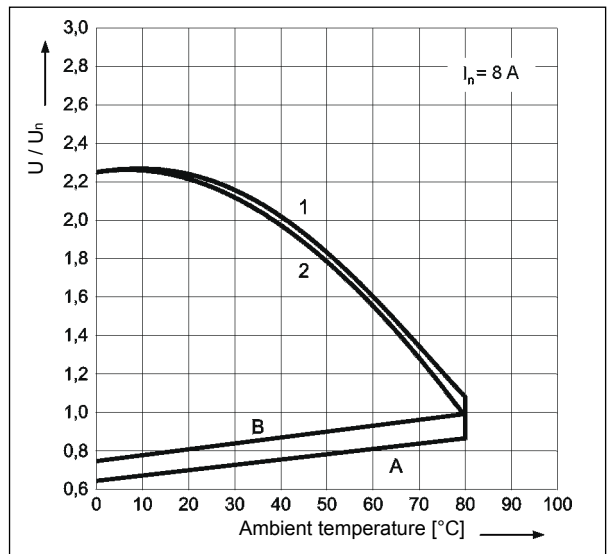
Max. breaking capacity
A - resistive load DC1
B - resistive load AC1

Fig. 3



Coil operating range - DC

Fig. 4

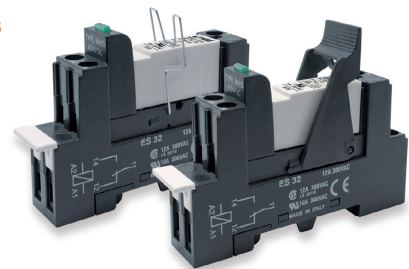


Description of Fig. 4

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 - values on Y axis represent allowed overvoltage on coil at certain ambient temperature and contact load:
1 - no load
2 - rated load

ES 32

Screw terminals
 plug-in socket
 for RM96 1 CO
 - see page 5.



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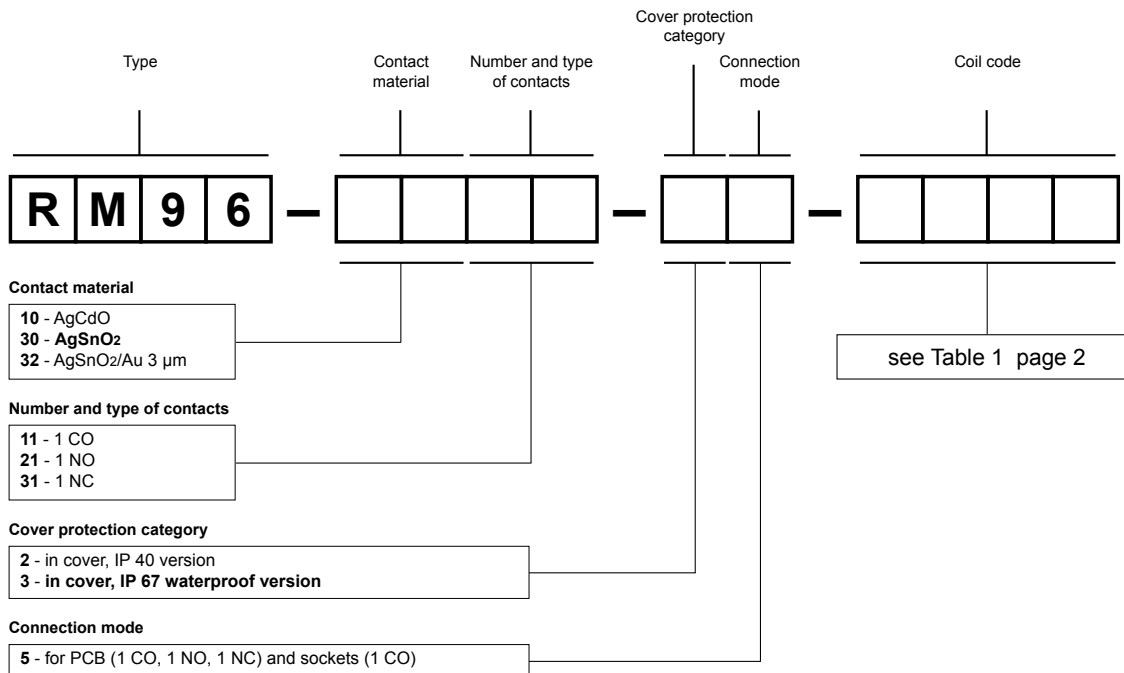
Mounting

Relays **RM96 1 CO** (one changeover contact) are designed for: • direct PCB mounting • screw terminals plug-in sockets **ES 32** with clip **MS 16** or **GZMB80-0040** 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 6).

Relays **RM96 1 NO** (one normally open contact) and **RM96 1 NC** (one normally closed contact) are designed for direct PCB mounting.

Plug-in sockets **ES 32** may be linked with interconnection strip type **ZGGZ80** (see page 7).

Ordering codes



Examples of ordering codes:

RM96-1011-35-1012 relay **RM96**, for PCB and sockets, one changeover contact, contact material AgCdO, coil voltage 12 V DC, in cover IP 67

RM96-3021-25-1024 relay **RM96**, for PCB, one normally open contact, contact material AgSnO₂, coil voltage 24 V DC, in cover IP 40

Print on relay cover

Type marking on relays cover **RM96** do not match the ordering codes (examples of marking for **RM96-1011-35-1012** and **RM96-3021-25-1024**).

