



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

## Contact data

|                                |      |                                                                          |
|--------------------------------|------|--------------------------------------------------------------------------|
| Number and type of contacts    |      | 1 C/O, 1 NO, 1 NC                                                        |
| Contact material               |      | <b>AgSnO<sub>2</sub></b> , AgSnO <sub>2</sub> /Au 3 µm, AgCdO            |
| Rated / max. switching voltage | AC   | 250 V / 440 V                                                            |
| Min. switching voltage         |      | 10 V AgSnO <sub>2</sub> , 5 V AgSnO <sub>2</sub> /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, 1/2 HP / 250 V AC UL 508)                     |
|                                | DC1  | 8 A / 24 V DC (see Fig. 1)                                               |
|                                | DC13 | 0,22 A / 120 V    0,1 A / 250 V (R300)                                   |
| Min. switching current         |      | 10 mA AgSnO <sub>2</sub> , 2 mA AgSnO <sub>2</sub> /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 <sub>2</sub> , 0,05 W AgSnO <sub>2</sub> /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 <sub>n</sub> |
| Operating range of supply voltage |    | see Table 1              |
| 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                           |             |                                                              |
| • resistive AC1                           |             | > 10 <sup>5</sup> 8 A, 250 V AC                              |
| • cos φ                                   |             | see Fig. 3                                                   |
| Mechanical life (cycles)                  |             | > 2 x 10 <sup>7</sup>                                        |
| Motor load according to UL 508            |             | 1/4 HP    120 V AC, single-phase motor                       |
| Dimensions (L x W x H)                    |             | 1 C/O:    30 x 10 x 16,2 mm<br>1 NO, 1 NC: 28 x 10 x 16,2 mm |
| Weight                                    |             | 11 g                                                         |
| Ambient temperature                       | • storage   | -40...+85 °C                                                 |
|                                           | • operating | -40...+80 °C                                                 |
| Cover protection category                 |             | IP 40 or <b>IP 67</b> 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.

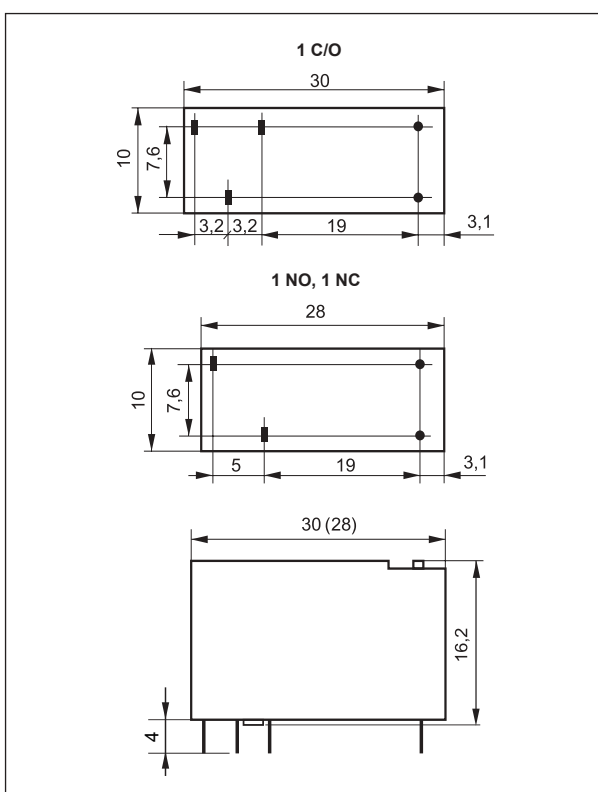
Coil data - DC voltage version

Table 1

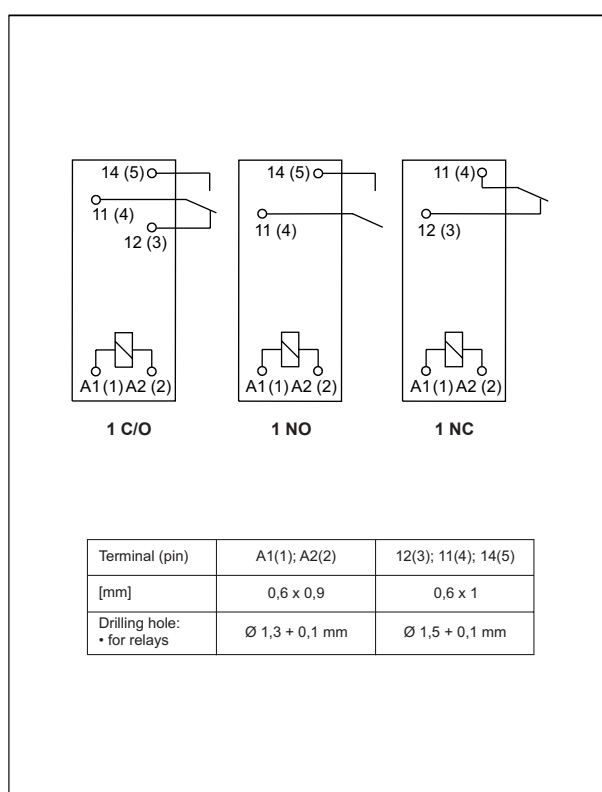
| Coil code   | Rated voltage<br>V DC | Coil resistance<br>$\pm 10\%$ at 20 °C<br>$\Omega$ | Coil operating range at 20 °C<br>V DC |             |
|-------------|-----------------------|----------------------------------------------------|---------------------------------------|-------------|
|     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

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

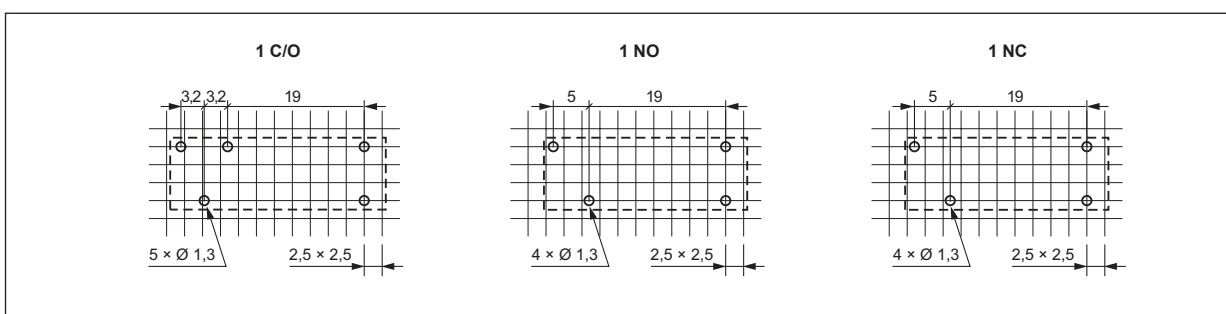
## Dimensions



## Connection diagrams (pin side view)

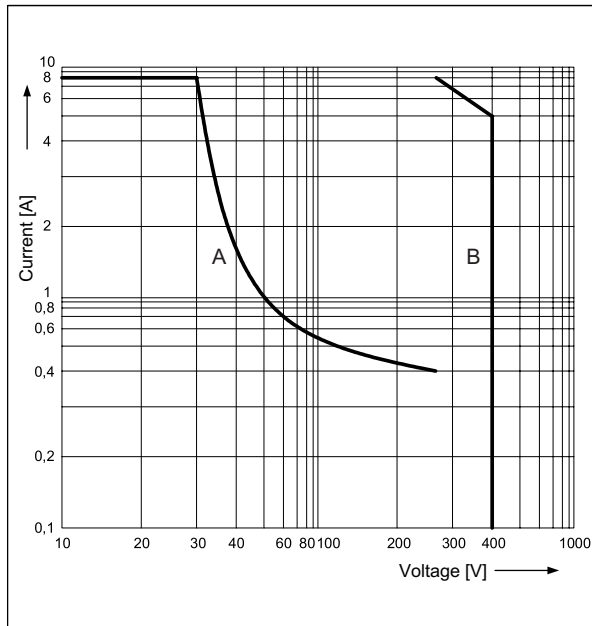


## Pinout (solder side view)



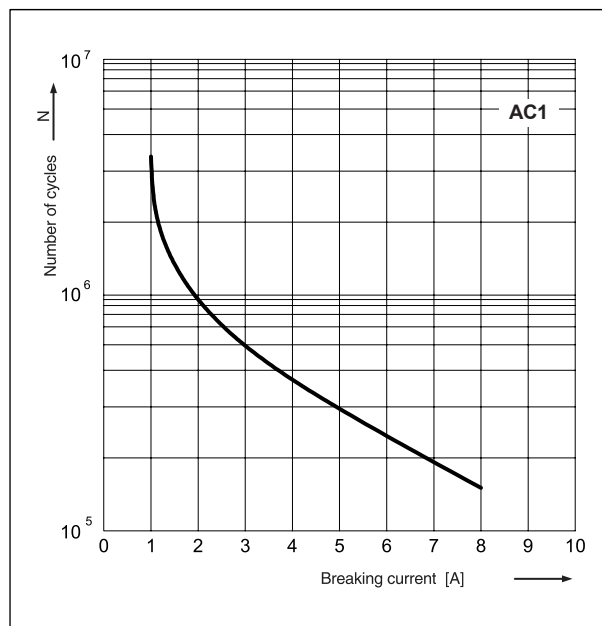
**Max. breaking capacity**  
**A - resistive load DC1**  
**B - resistive load AC1**

Fig. 1



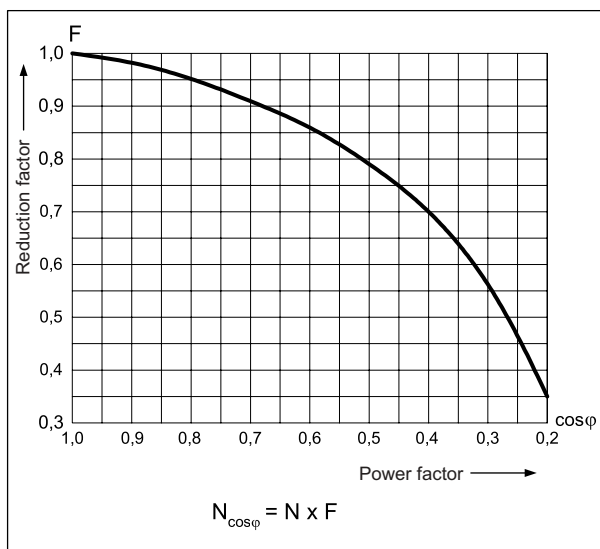
**Electrical life at AC1 resistive load for version 1 NO**

Fig. 2



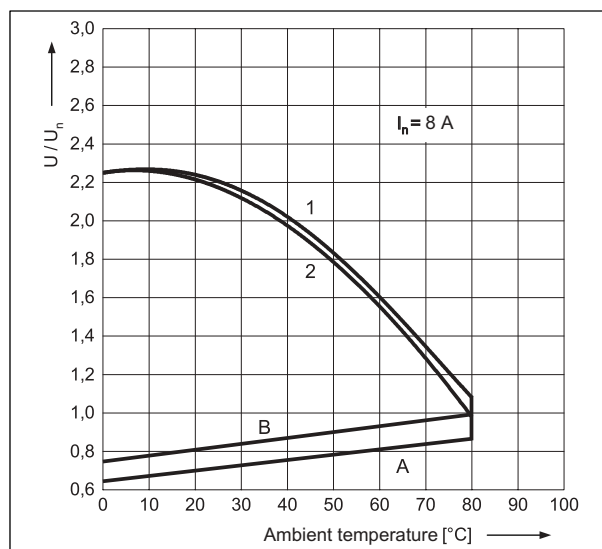
**Electrical life reduction factor at AC inductive load**

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

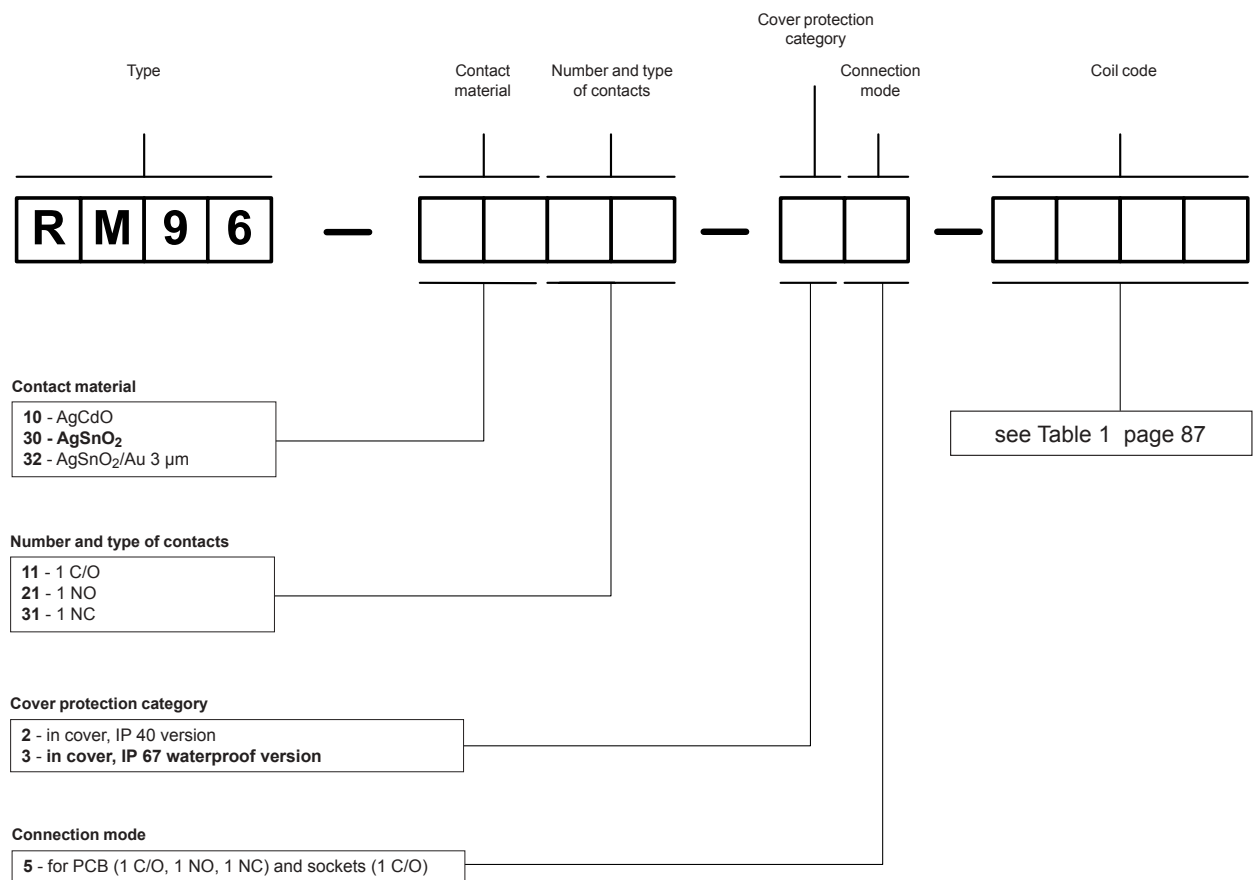
## Mounting

Relays **RM96 1 C/O** (one changeover contact) are designed for: • direct PCB mounting • screw terminals plug-in sockets **ES 32** with clip **MS16** 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 250).

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 261).

## Ordering codes



Examples of ordering codes:

**RM96-3011-35-1012** relay **RM96**, contact material AgSnO<sub>2</sub>, with one changeover contact, in cover IP 67, for PCB and sockets, voltage version 12 V DC

**RM96-3031-25-1024** relay **RM96**, contact material AgSnO<sub>2</sub>, with one normally closed contact, in cover IP 40, for PCB, voltage version 24 V DC

## Print on relay cover

Type marking on relays cover **RM96** do not match the ordering codes.

Example of marking:

**RM96P-24-W** **RM96P** - relay **RM96**, with one changeover contact  
**24** - voltage version 24 V DC  
**W** - in cover, IP 67 waterproof version