



- Extremely space-saving assembly
- Sealed for soldering and cleaning
- **Terminals arrangement: vertical version (V) and horizontal version (H)**
- Applications: for PLC's, industrial machinery, time relays, counters, temperature adjusters, measurement instruments, office equipment, etc.
- Recognitions, certifications, directives: RoHS,  

## Contact data

Number and type of contacts		1 C/O	
Contact material		<b>AgSnO<sub>2</sub></b>	AgSnO <sub>2</sub> /Au 3 μm <b>①</b>
Max. switching voltage	AC/DC	250 V / 300 V	30 V / 36 V
Min. switching voltage		12 V	0,1 V
Rated load	AC1 DC1	6 A / 230 V AC 6 A / 24 V DC	0,05 A / 30 V AC 0,05 A / 36 V DC
Min. switching current		100 mA	10 mA
Max. inrush current		15 A 20 ms	0,1 A 20 ms
Rated current		6 A	0,05 A
Max. breaking capacity	AC1	1 500 VA	1,2 VA
Min. breaking capacity		1 W	0,05 W
Contact resistance		≤ 100 mΩ 100 mA, 24 V	≤ 30 mΩ 10 mA, 5 V
Max. operating frequency			
• at rated load	AC1	360 cycles/hour	
• no load		72 000 cycles/hour	

## Coil data

Rated voltage	DC	5...60 V
Must release voltage		DC: ≥ 0,05 U <sub>n</sub>
Operating range of supply voltage		see Table 1
Rated power consumption	DC	0,17...0,217 W

## Insulation

Insulation rated voltage		250 V
Overvoltage category		III PN-EN 60664-1
Dielectric strength		
• between coil and contacts		4 000 V AC
• contact clearance		1 000 V AC
Contact - coil distance		
• clearance		≥ 6 mm
• creepage		≥ 8 mm

## General data

Operating time (typical value)		5 ms
Release time (typical value)		2,5 ms
Electrical life		
• resistive AC1		> 5 x 10 <sup>4</sup> 6 A, 250 V AC
Mechanical life (cycles)		> 10 <sup>7</sup>
Dimensions (L x W x H)		28 x 5 x 15 mm
Weight		6 g
Ambient temperature		
• storage		-40...+85 °C
• operating		-40...+85 °C
Cover protection category		IP 64
Environmental protection		RTIII PN-EN 116000-3
Shock resistance		5 g
Vibration resistance		5 g 10...55 Hz
Solder bath temperature		max. 235 °C
Soldering time		max. 3,5 s

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

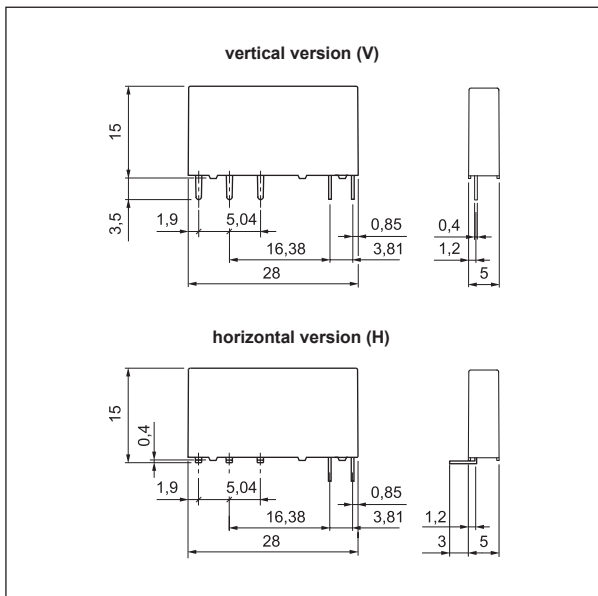
**①** For gold-plated contacts - when the maximum values given have been exceeded, the gold layer is destroyed. Then, the advantages of gold-plating disappear and the values are as for AgSnO<sub>2</sub> contacts (see beside). In consequence however, the life of the contact may be shorter than that of the normal power contact.

**Coil data - DC voltage version**

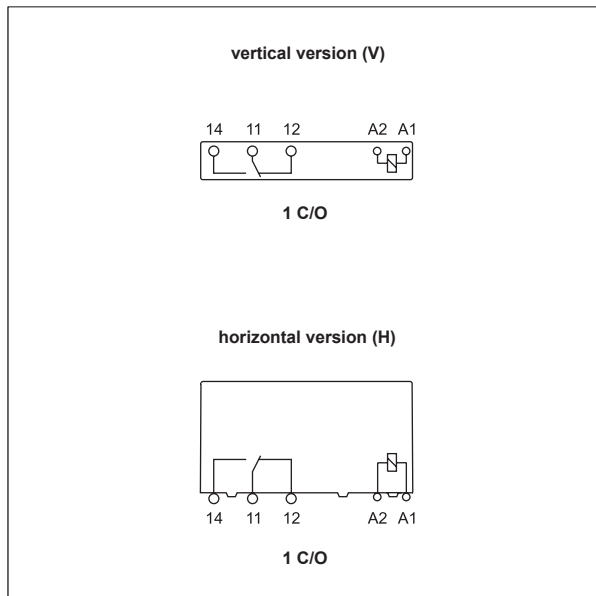
Table 1

Coil code	Rated voltage V DC	Coil resistance at 20°C Ω	Acceptable resistance	Coil operating range at 20°C V DC		Power consumption mW
				min.	max.	
1005	5	147	± 10%	3,5	11,0	170
1012	12	848	± 10%	8,4	26,4	170
1024	24	3 390	± 10%	16,8	52,8	170
1048	48	10 600	± 15%	33,6	105,6	217
1060	60	20 500	± 10%	42,0	125,0	176

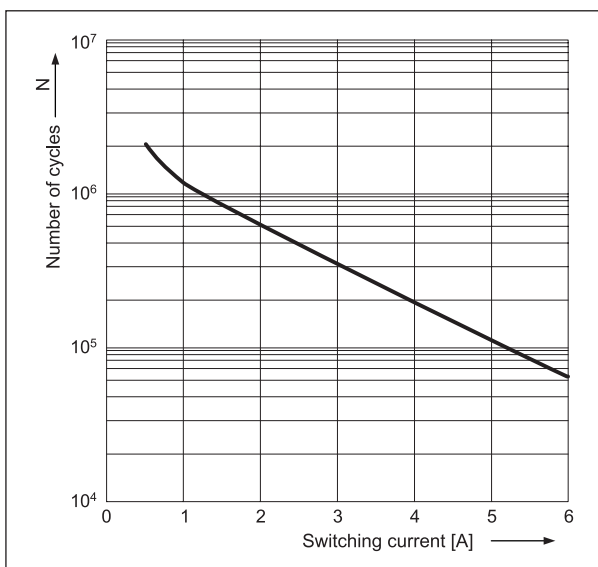
**Dimensions**



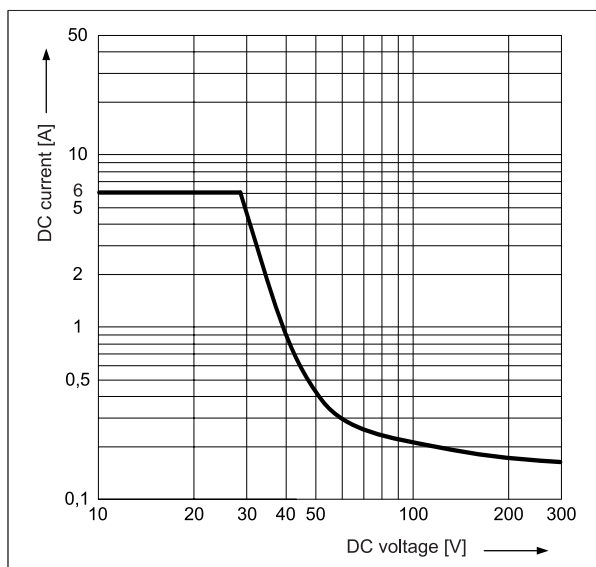
**Connections diagrams (pin side view)**



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

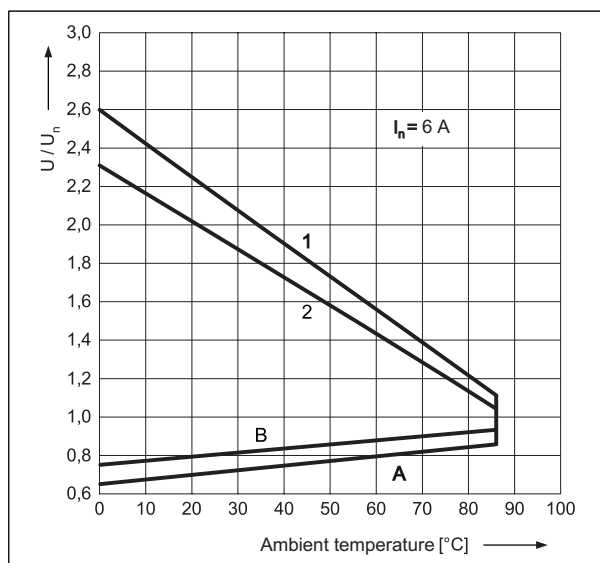


**Max. DC resistive load breaking capacity** Fig. 2



### Coil operating range - DC

Fig. 3



### Description of Fig. 3

**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  $I_n$ , 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:

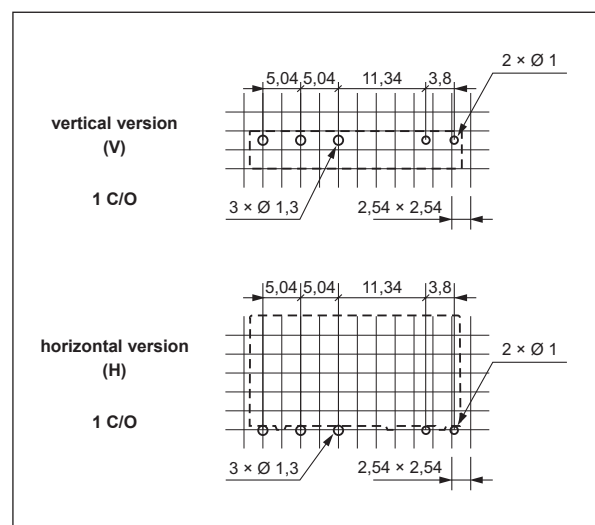
- 1 - no load
- 2 - rated load

### Mounting

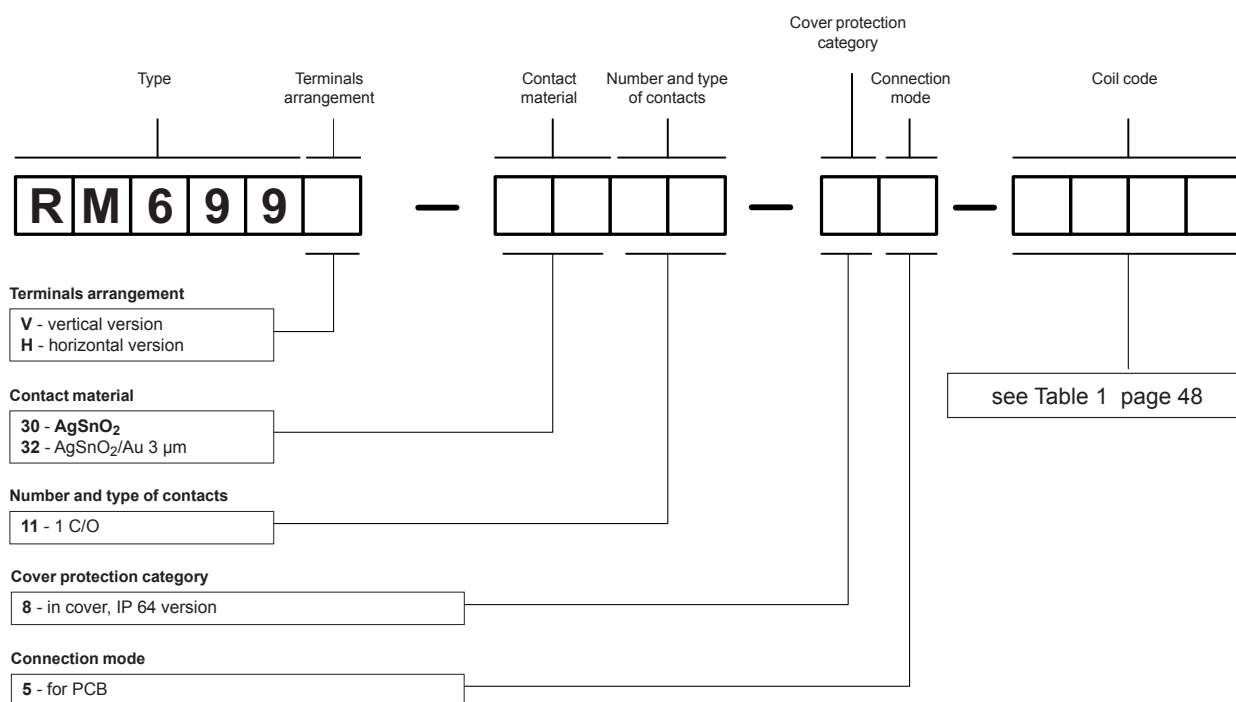
Relays **RM699 vertical version (V)** are designed for:  
 • direct PCB mounting • sockets **PI6W-1P**, 35 mm DIN rail mount, EN 50022.

Relays **RM699 horizontal version (H)** are designed for direct PCB mounting.

### Mounting openings raster (solder side view)



### Ordering codes



Example of ordering code:

**RM699V-3011-85-1012**

relay **RM699**, vertical version, contact material  $AgSnO_2$ , with one changeover contact, in cover IP 64, for PCB, voltage version 12 V DC