



# RM699B

## miniature relays

Version (V)

Version (H)



- Cover width only 5,0 mm
- 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 CO	
Contact material		<b>AgSnO<sub>2</sub></b>	AgSnO <sub>2</sub> /Au 3 μm ❶
Max. switching voltage		400 V AC / 250 V DC	30 V AC / 36 V DC ❶
Min. switching voltage		10 V	5 V
Rated load	AC1	6 A / 250 V AC	0,05 A / 30 V AC ❶
	DC1	6 A / 24 V DC; 0,15 A / 250 V DC	0,05 A / 36 V DC ❶
Min. switching current		100 mA	10 mA
Max. inrush current		10 A 20 ms	0,1 A 20 ms ❶
Rated current		6 A	0,05 A ❶
Max. breaking capacity	AC1	1 500 VA	1,2 VA ❶
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	
<b>Coil data</b>			
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 W 5 ... 24 V 0,217 W 48, 60 V	
<b>Insulation according to PN-EN 60664-1</b>			
Insulation rated voltage		250 V AC	
Overvoltage category		III	
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		≥ 6 mm	
• creepage		≥ 8 mm	
<b>General data</b>			
Operating / release time (typical values)		8 ms / 4 ms	
Electrical life (number of cycles)			
• resistive AC1		the NO and NC contact loaded (bilateral load): see Fig. 1	
		the NO contact loaded: > 3 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	PN-EN 60529
Environmental protection		RTIII	PN-EN 116000-3
Shock resistance		5 g	
Vibration resistance		5 g 10...55 Hz	
Solder bath temperature		max. 260 °C	
Soldering time		max. 5 s	

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

❶ 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), and electrical life of these contacts may be shorter than of normal contacts.

# RM699B

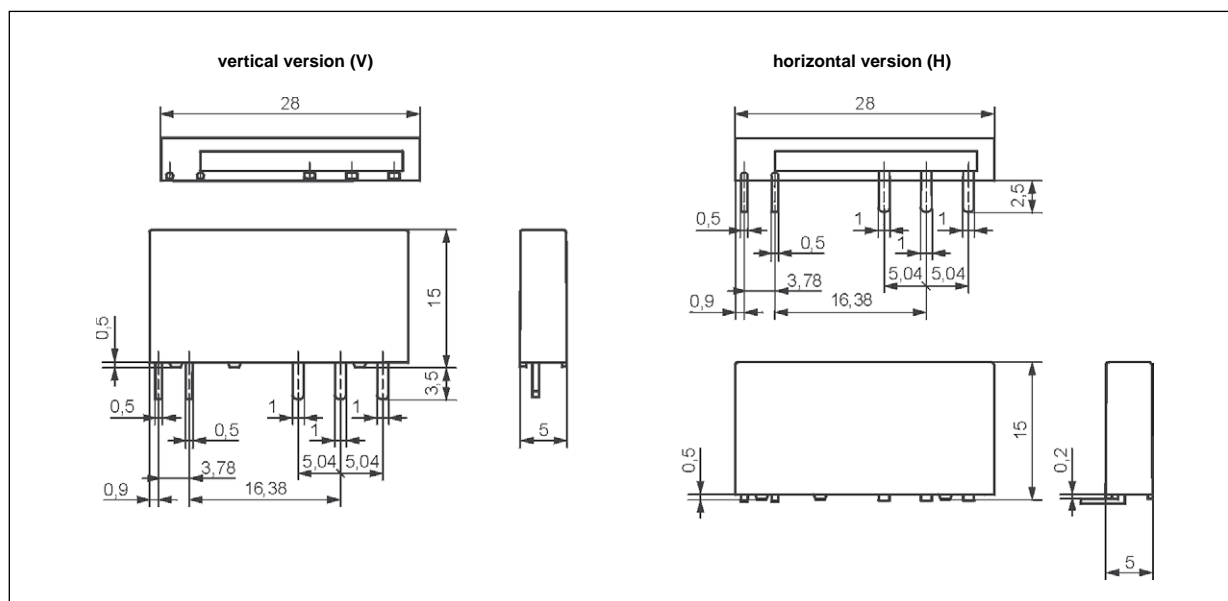
## miniature relays

Coil data - DC voltage version

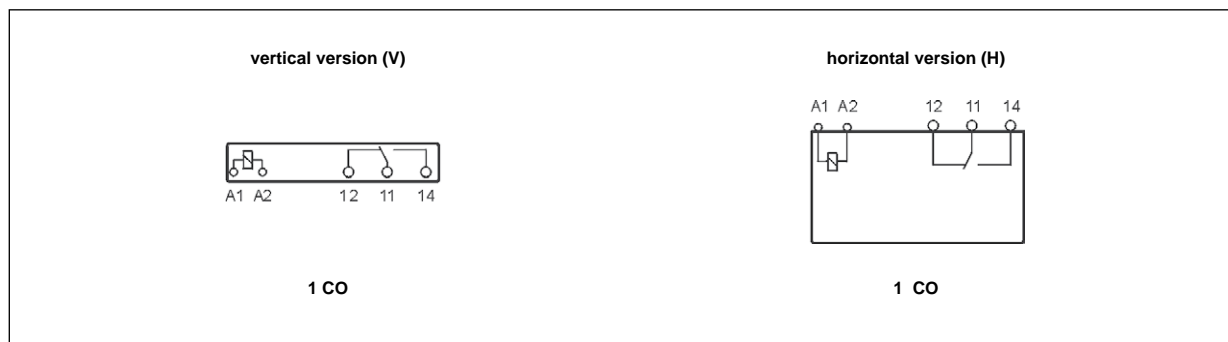
Table 1

Coil code	Rated voltage V DC	Coil resistance at 20 °C $\Omega$	Acceptable resistance	Coil operating range V DC	
				min. (at 20 °C)	max. (at 20 °C)
1005	5	147	$\pm 10\%$	3,75	7,5
1012	12	848	$\pm 10\%$	9,0	18,0
1024	24	3 390	$\pm 15\%$	18,0	36,0
1048	48	10 600	$\pm 15\%$	36,0	72,0
1060	60	20 500	$\pm 15\%$	45,0	90,0

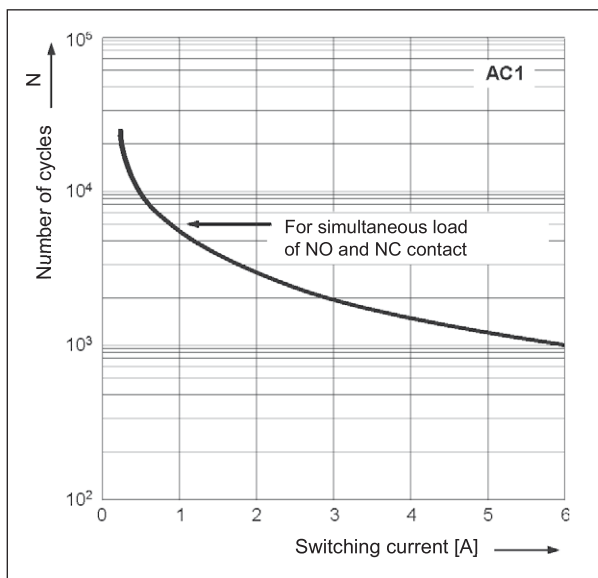
### Dimensions



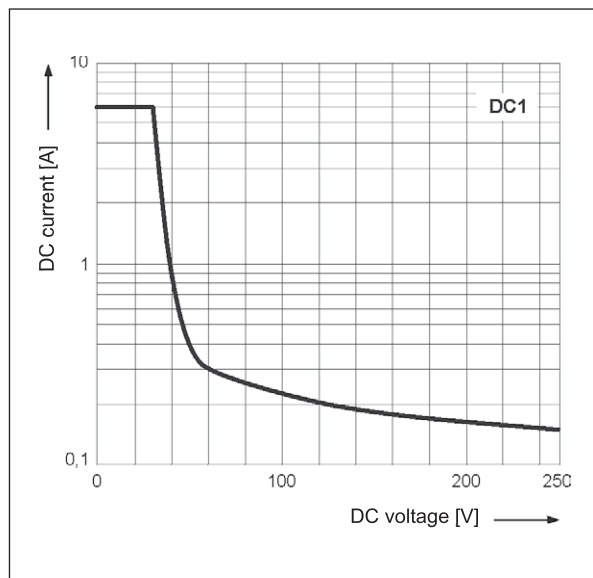
### Connection diagrams (pin side view)



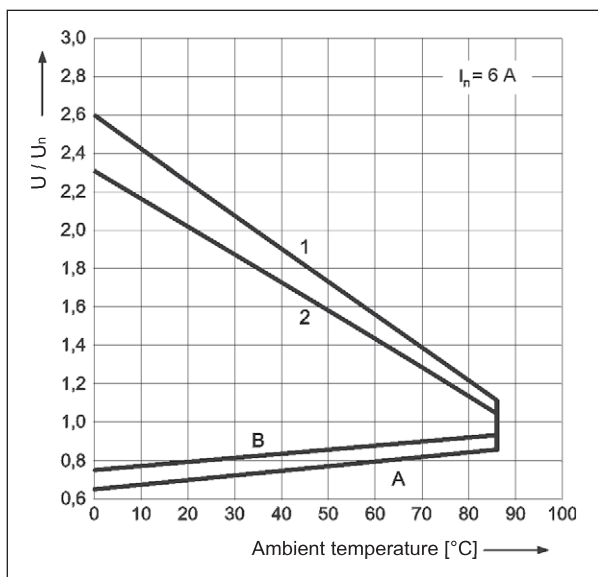
**Electrical life at AC resistive current.** Fig. 1  
Switching frequency: 360 cycles/hour



**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  $1,1 U_n$ , 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 **RM699B vertical version (V)** are designed for:  
• direct PCB mounting • sockets **PI6W-1P**, 35 mm rail mount acc. to PN-EN 60715 (see page 5).

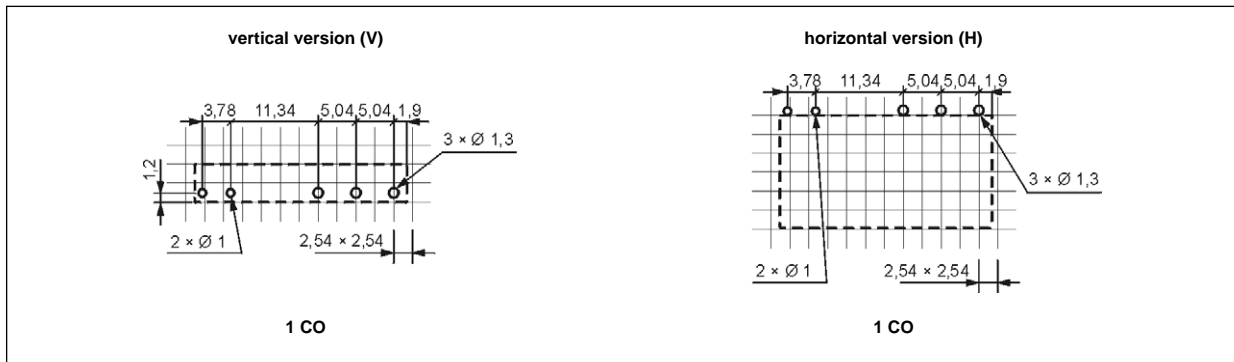
Relays **RM699B horizontal version (H)** are designed for direct PCB mounting.

## PI6W-1P

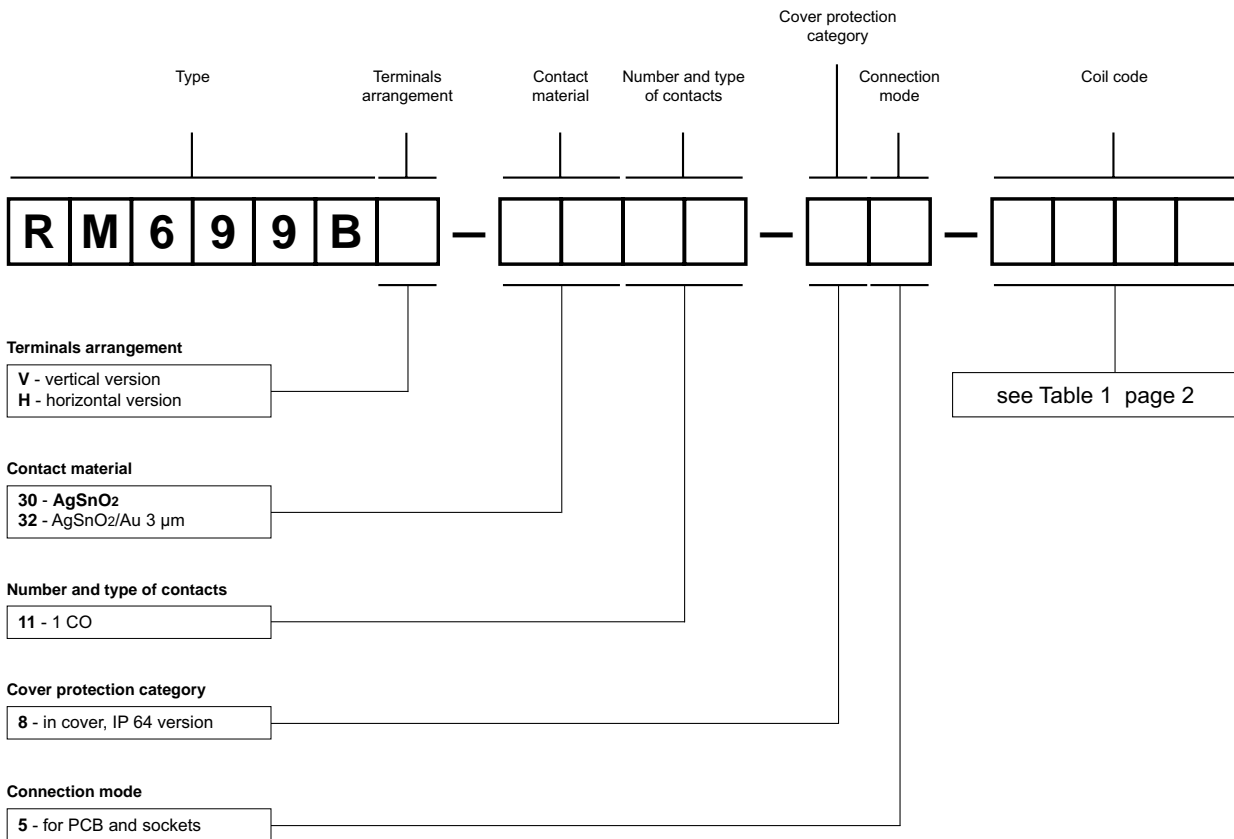
Plug-in sockets  
for relays  
**RM699BV**  
or **RSR30**



## Pinout (solder side view)



## Ordering codes



Examples of ordering code:

**RM699BV-3011-85-1012** relay **RM699B**, vertical version, for PCB and sockets, one changeover contact, contact material AgSnO<sub>2</sub>, coil voltage 12 V DC, in cover IP 64

**RM699BH-3211-85-1005** Relais **RM699B**, horizontal version, for PCB, one changeover contact, contact material AgSnO<sub>2</sub>/Au 3 μm, coil voltage 5 V DC, in cover IP 64