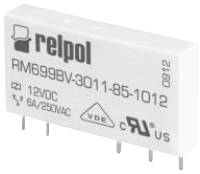
version (V) version (H)



NEW product

- 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 C/O	
Contact material		**$AgSnO_2$**	$AgSnO_2$/Au 3 µm ❶
Rated / max. switching voltage	AC	250 V / 400 V	– / 30 V ❶
Max. switching voltage	DC	250 V	36 V 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	0,05 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	

Coil data

Rated voltage	DC	5 ... 60 V
Must release voltage		DC: ≥ 0,05 U_n
Operating range of supply voltage		see Table 1
Rated power consumption	DC	0,17...0,217 W

Insulation according to PN-EN 60664-1

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

General data

Operating / release time (typical values)		8 ms / 4 ms
Electrical life		
• resistive AC1		the NO and NC contact loaded (bilateral load): see Fig. 1 the NO contact loaded: > 3×10^4 6 A, 250 V AC
Mechanical life (cycles)		> 10^7
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. 235 °C
Soldering time		max. 3,5 s

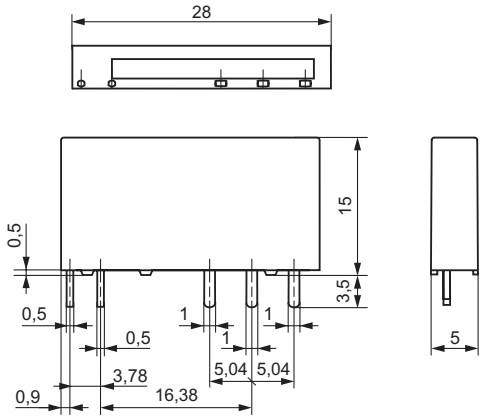
The data in bold type pertain to the standard versions of the relays.
❶ For gold-plated contacts - when the maximum values given have been exceeded, the gold layer is destroyed. Then, the advantages of gold-plating disappear and the values are as for $AgSnO_2$ contacts (see beside). In consequence however, the life of the contact may be shorter than that of the normal power contact.

Coil data - DC voltage version Table 1

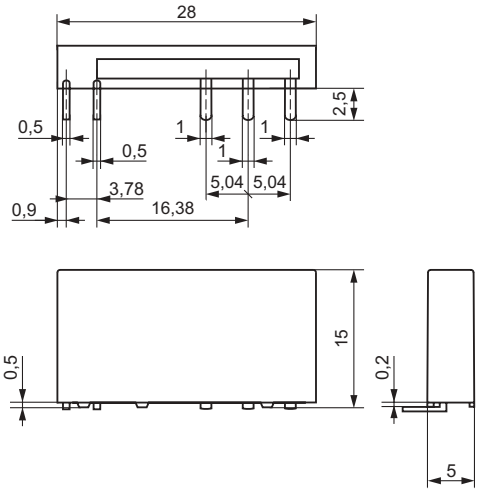
Coil code	Rated voltage V DC	Coil resistance at 20°C Ω	Acceptable resistance	Coil operating range at 20°C V DC		Power consumption mW
				min.	max.	
1005	5	147	± 10%	3,75	7,5	170
1012	12	848	± 10%	9,0	18,0	170
1024	24	3 390	± 15%	18,0	36,0	170
1048	48	10 600	± 15%	36,0	72,0	217
1060	60	20 500	± 15%	45,0	90,0	217

Dimensions

vertical version (V)

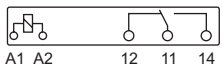


horizontal version (H)



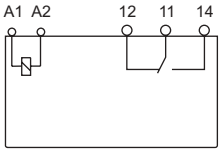
Connection diagrams (pin side view)

vertical version (V)



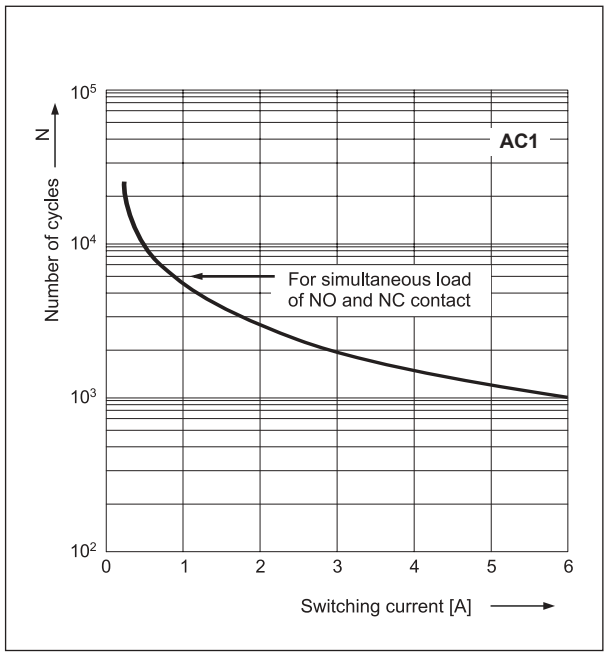
1 C/O

horizontal version (H)

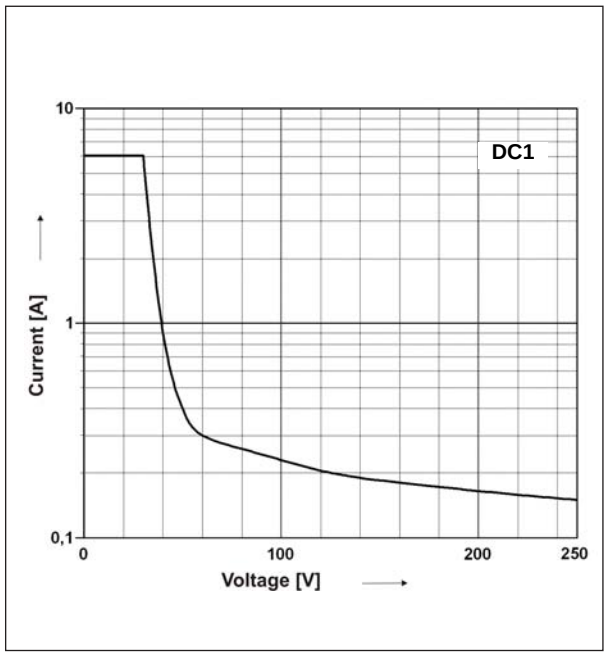


1 C/O

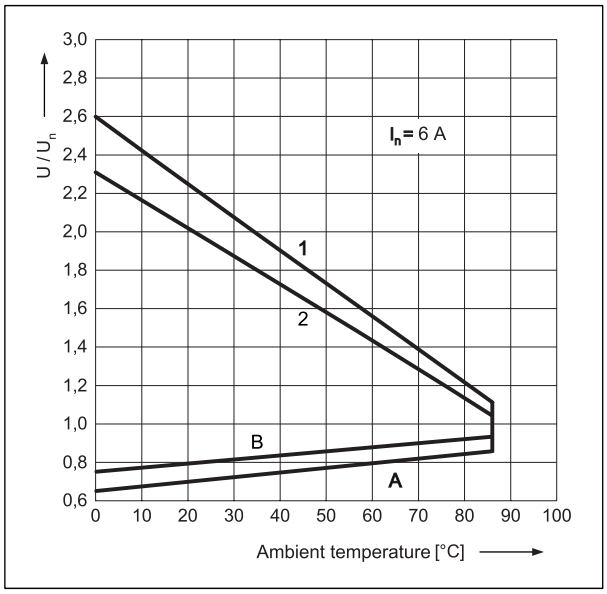
Electrical life at AC resistive current. Switching frequency: 360 cycles/hour Fig. 1



Max. DC resistive load breaking capacity Fig. 2



Coil operating range - DC Fig. 3

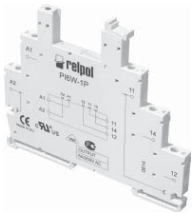


Description of Fig. 3

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 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

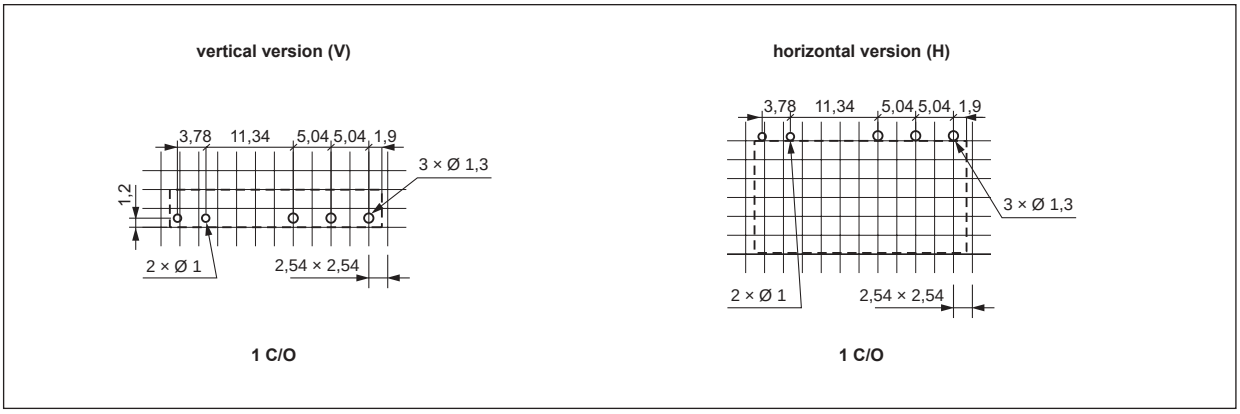
Mounting

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

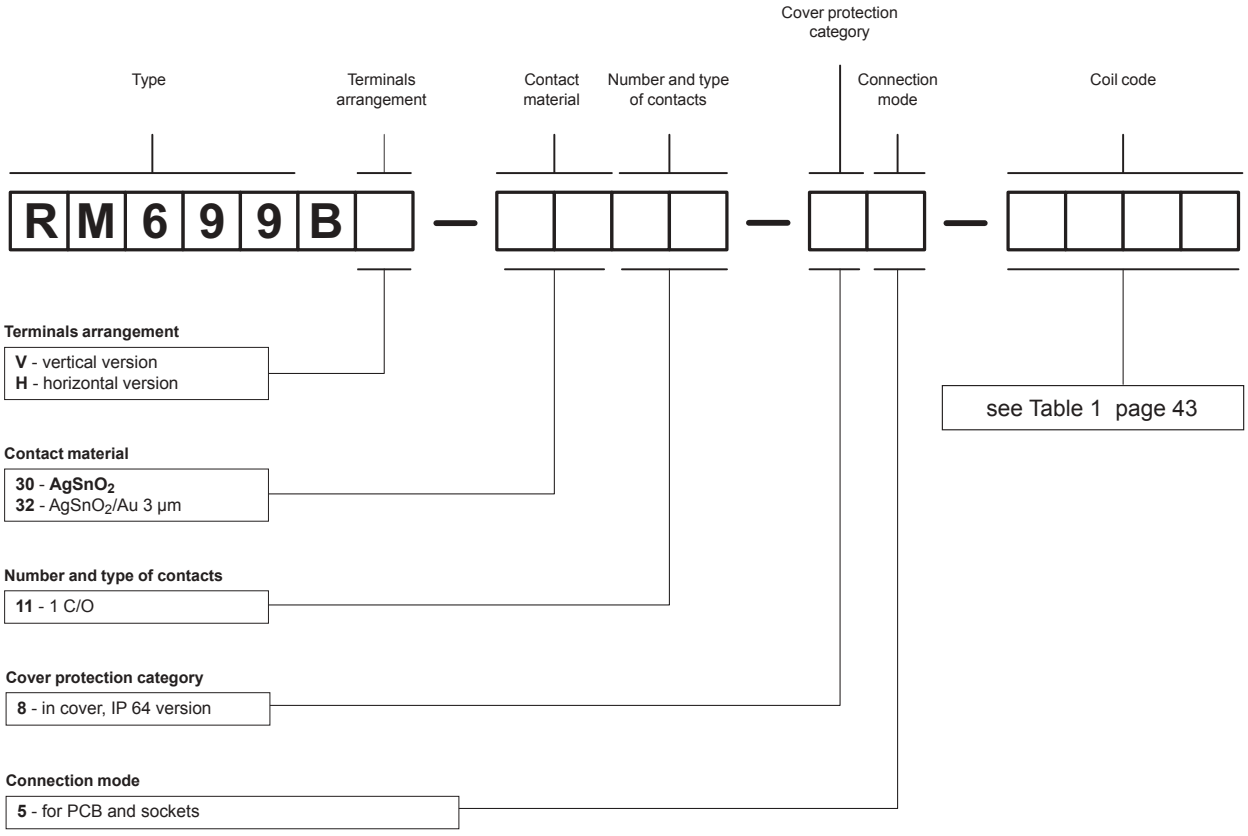


PI6W-1P

Pinout (solder side view)



Ordering codes



Examples of ordering code:

RM699BV-3011-85-1012 relay **RM699B**, vertical version, contact material $AgSnO_2$, with one changeover contact, in cover IP 64, for PCB and sockets, voltage version 12 V DC

RM699BH-3211-85-1005 relay **RM699B**, horizontal version, contact material $AgSnO_2$/Au 3 µm, with one changeover contact, in cover IP 64, for PCB, voltage version 5 V DC