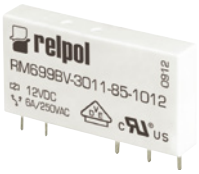
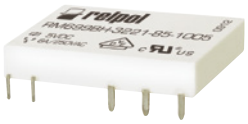
Version (V) Version (H)





- 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, 1 NO	
Contact material		**$AgSnO_2$**, AgNi	$AgSnO_2$/Au hard gold plating ❶ AgNi/Au hard gold plating 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 / 30 V DC; 0,15 A / 250 V DC	0,05 A / 36 V DC ❶
Motor load	AC3 acc. to IEC 60947-4-1	0,186 kW 250 V AC, single-phase motor	–
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, 6, 9, 12, 24, 48, 60 V
Must release voltage		DC: ≥ 0,05 U_n
Operating range of supply voltage		see Table 1
Rated power consumption	DC	0,17 W 5 ... 24 V 0,21 W 48, 60 V

Insulation according to EN 60664-1

Insulation rated voltage	250 V AC
Rated surge voltage	6 000 V 1,2 / 50 µs
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

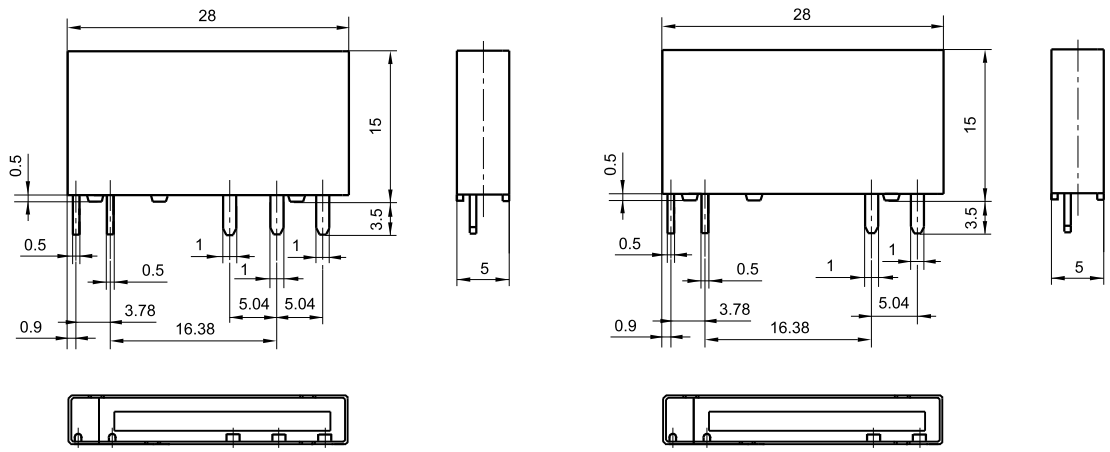
General data

Operating / release time (typical values)		8 ms / 4 ms
Electrical life (number of cycles)		
• resistive AC1		the NO and NC contact loaded (bilateral load): see Fig. 1 the NO contact loaded: > 3 x 10^4 6 A, 250 V AC
• inductive AC3		6 x 10^3 186 W (single-phase motor), AgNi
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
(non-condensation and/or icing)	• operating	-40...+85 °C
Cover protection category		IP 67 EN 60529
Environmental protection		RTIII EN 61810-7
Relative humidity		5...85%
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 relate 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 $AgSnO_2$, AgNi contacts (see beside), and electrical life of these contacts may be shorter than of normal contacts.

Dimensions

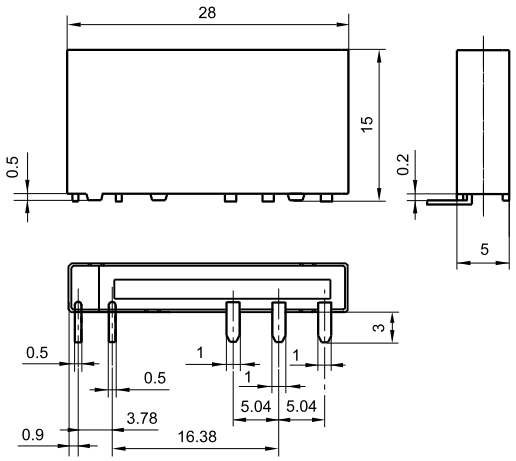
vertical version (V)



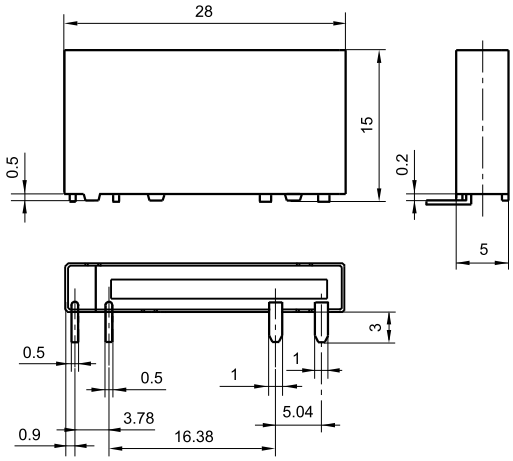
1 CO

1 NO

horizontal version (H)



1 CO



1 NO

Mounting

Relays **RM699B vertical version (V)** are designed for: • direct PCB mounting • sockets **PI6W-1P**, 35 mm rail mount acc. to EN 60715 (see page 374).

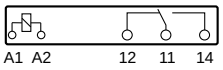
Relays **RM699B horizontal version (H)** are designed for direct PCB mounting.

PI6W-1P

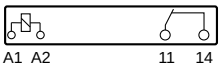
Plug-in sockets
for relays
RM699BV
or RSR30

Connection diagrams (pin side view)

vertical version (V)

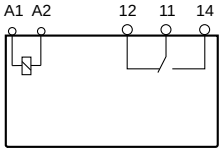


1 CO



1 NO

horizontal version (H)



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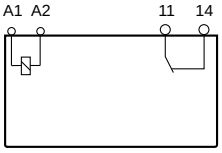
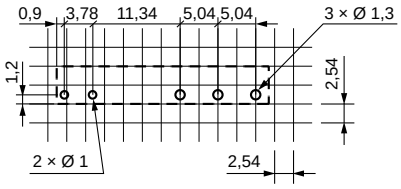


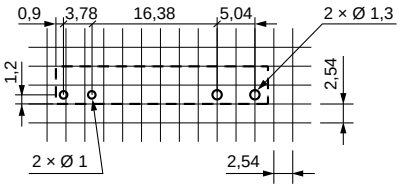
1 NO

Pinout (solder side view)

vertical version (V)

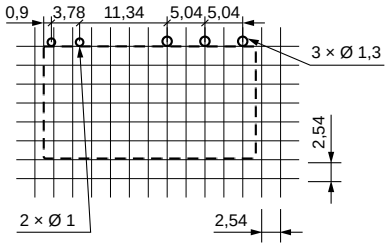


1 CO

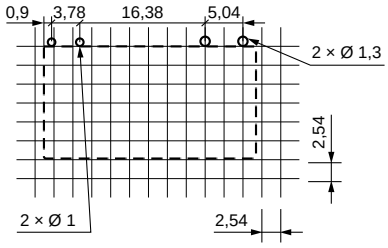


1 NO

horizontal version (H)

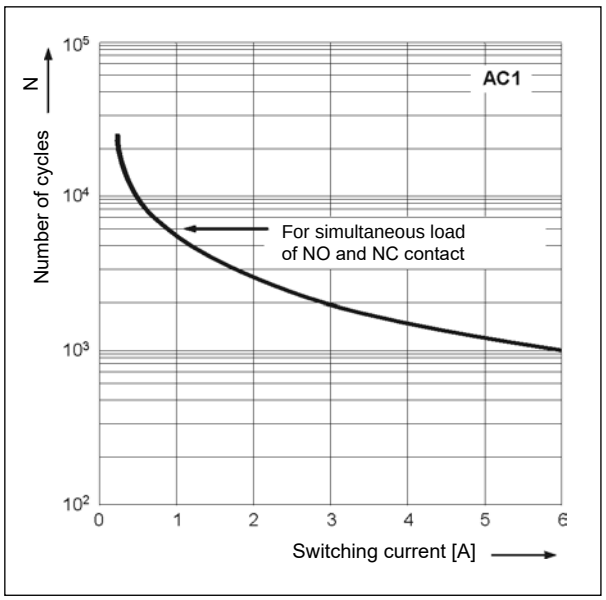


1 CO

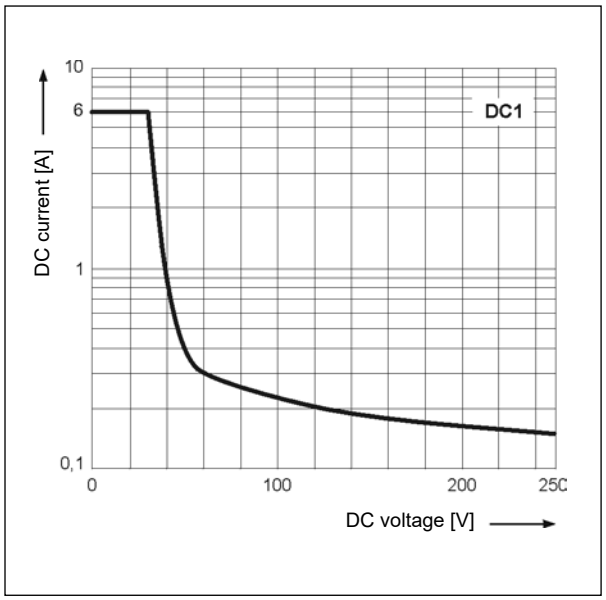


1 NO

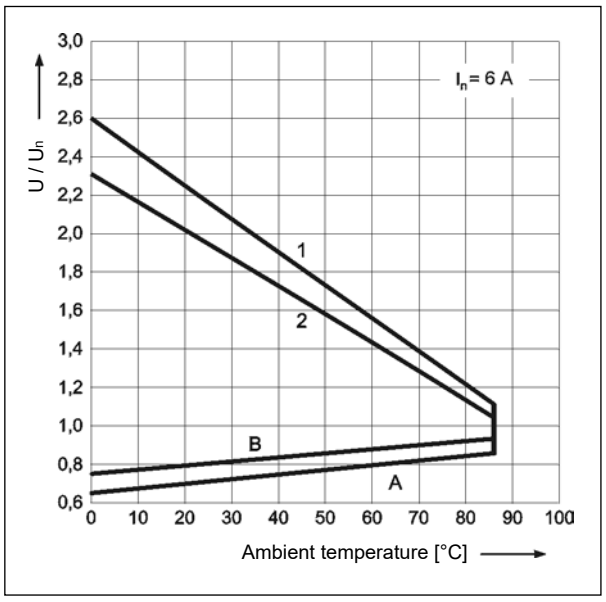
Electrical life at AC resistive current. Switching frequency: 360 cycles/hour Fig. 1



Max. DC resistive load breaking capacity Fig. 2



Coil operating range - DC Fig. 3



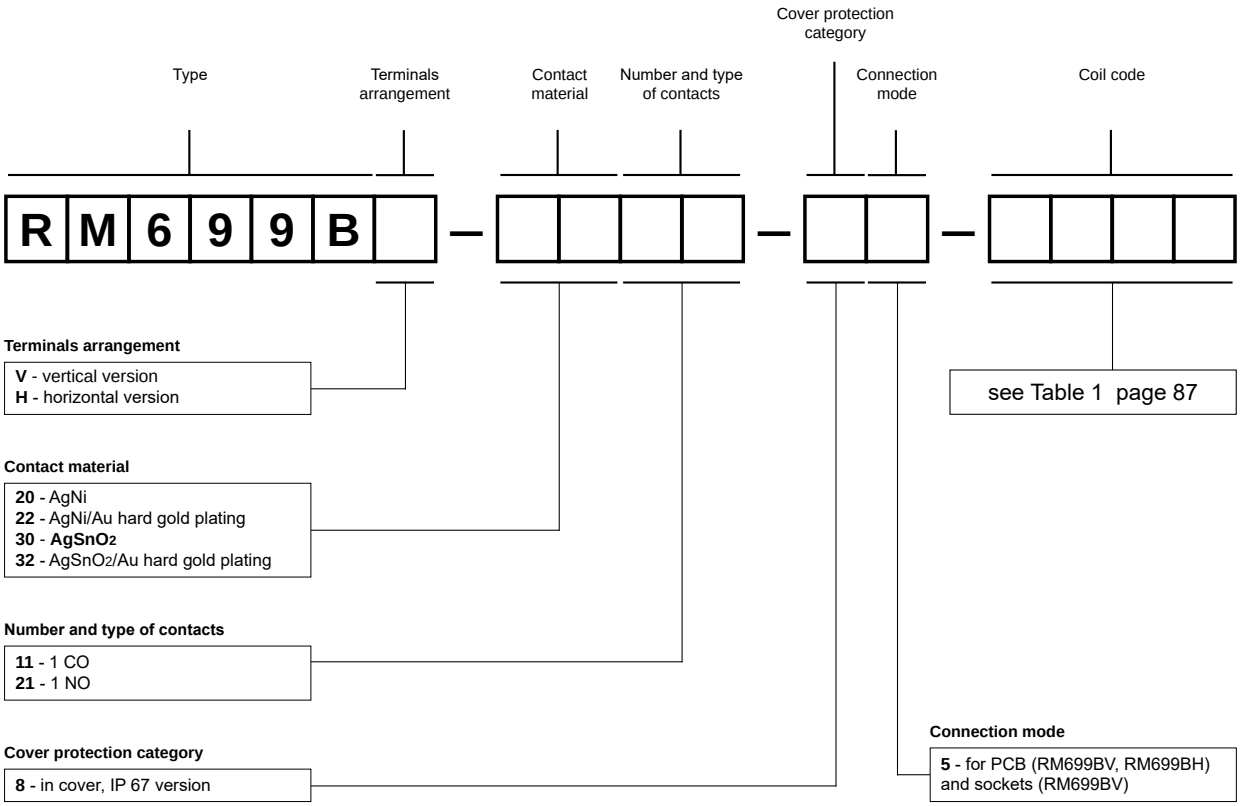
Description of Fig. 3

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

Coil data - DC voltage version Table 1

Coil code		Coil resistance at 20 °C Ω	Acceptable resistance	Coil operating range V DC	
				min. (at 20 °C)	max. (at 20 °C)
1005	5	147	± 10%	3,75	7,5
1006	6	212	± 10%	4,5	9,0
1009	9	476	± 10%	6,75	13,0
1012	12	848	± 10%	9,0	18,0
1024	24	3 390	± 15%	18,0	36,0
1048	48	10 600	± 15%	36,0	72,0
1060	60	16 600	± 15%	45,0	90,0

Ordering codes



Examples of ordering code:

RM699BV-3011-85-1012 relay **RM699B**, vertical version, for PCB and sockets, one changeover contact, contact material $AgSnO_2$, coil voltage 12 V DC, in cover IP 67

RM699BH-2021-85-1005 relay **RM699B**, horizontal version, for PCB, one normally open contact, contact material AgNi, coil voltage 5 V DC, in cover IP 67