

RM699BV + PI6W-1P-...



- Interface relay **PIR6W-1P-...** consists of:
 - socket with electronic **PI6W-1P-...** with screw terminals,
 - changeover relay **RM699BV**, rated load 6 A / 250 V (AC1) ①
- 35 mm rail mount acc. to PN-EN 60715 • May be linked with interconnection strip type **ZG20** • Equipped in LED green • Version for long lines, with anti-interference filter (**PIR6W-1P-230VAC/DC-10** ②) • Accessories: description plates **PI6W-1246** • Recognitions, certifications, directives:

Output circuit (RM699BV) - contact data ①



Number and type of contacts	1 C/O		
Contact material	AgSnO₂	AgSnO ₂ /Au 3 μm ②	
Rated / max. switching voltage	AC	250 V / 400 V	- / 30 V ②
Max. switching voltage	DC	250 V	36 V ②
Min. switching voltage	AC/DC	10 V	5 V
Rated load	AC1	6 A / 250 V AC	0,05 A / 30 V AC ②
	DC1	6 A / 24 V DC	0,05 A / 36 V DC ②
Min. switching current	100 mA		10 mA
Max. inrush current	10 A 20 ms		0,1 A 20 ms ②
Rated current	6 A		0,05 A ②
Max. breaking capacity	AC1	1 500 VA	1,2 VA ②
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	AC1	• at rated load	360 cycles/hour
		• no load	72 000 cycles/hour

Input control circuit

Rated voltage	DC	12 ... 36 V		
	AC: 50/60 Hz AC/DC	24 ... 230 V		
Must release voltage		AC: ≥ 0,2 U _n	AC: ≥ 0,35 U _n ③	DC: ≥ 0,1 U _n
Operating range of supply voltage	see Table 1			
Must operate voltage		AC and DC: ≤ 0,8 U _n	AC: 0,6...0,85 U _n ③	DC: ≤ 0,8 U _n ③
Rated power consumption	DC	0,3 W		
	AC/DC	0,3...2,1 VA / 0,3...1,0 W		
Max. length of supply line		≤ 300 m	AC supply ③	

Insulation according to PN-EN 60664-1

Insulation rated voltage	250 V AC			
Rated surge voltage	4 000 V 1,2 / 50 μs			
Overtoltage category	III			
Insulation pollution degree	3			
Dielectric strength	• input - output	4 000 V AC	50/60 Hz, 1 min., type of insulation: reinforced	
	• input - output	6 000 V	1,2 / 50 μs, surge voltage	
	• mass - input, output	2 500 V AC	50/60 Hz, 1 min.	
	• contact clearance	1 000 V AC	50/60 Hz, 1 min., type of clearance: micro-disconnection	
Input - output distance	• clearance \ creepage			
	≥ 6 mm \ ≥ 8 mm			

General data

Operating time (typical value)	AC: 11 ms	DC: 8 ms	AC/DC: 20 ms at U=0,85 U _n ③	
Release time (typical value)	AC: 15 ms	DC: 10 ms	AC/DC: 18 ms ③	
Electrical life	• resistive AC1	> 0,6 x 10 ⁵	6 A, 250 V AC, 360 cycles/hour	
	• cos φ = 0,4	> 2 x 10 ⁵	2 A, 250 V AC	
Mechanical life (cycles)	> 2 x 10 ⁷			
Dimensions (L x W x H) / Weight	98,5 x 6,2 x 85,5 mm / 45 g			
Ambient temperature	• storage	-40...+70 °C		
	• operating	-40...+55 °C	-40...+60 °C 12, 24 V DC	
Protection category	IP 20	PN-EN 60529		
Environmental protection	RTI	PN-EN 116000-3		
Shock resistance	10 g			
Vibration resistance	5 g 10...500 Hz			

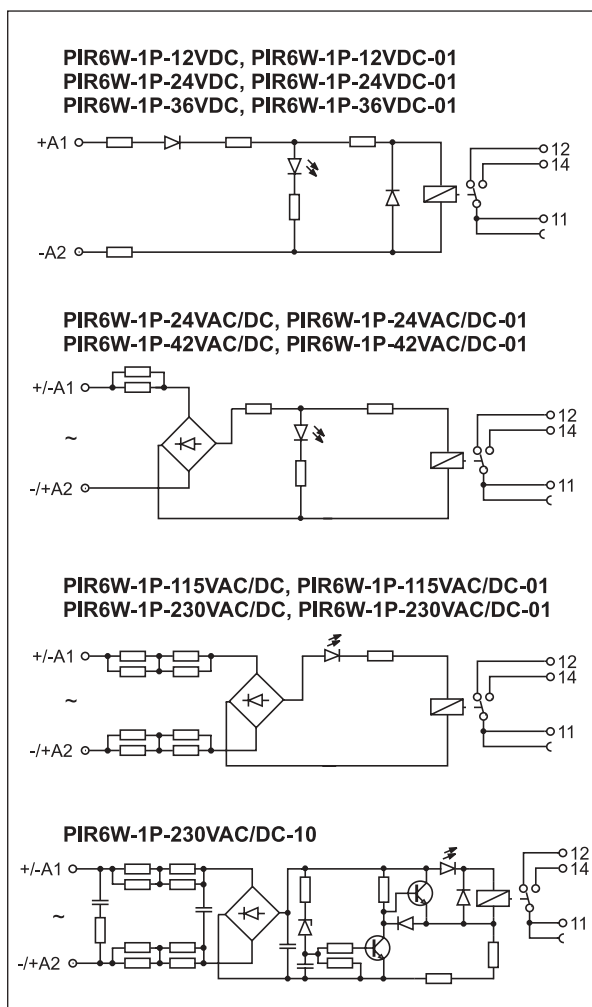
The data in bold type pertain to the standard versions of the relays. ① Characteristics of the contact capacity of relays **PIR6W-1P-...** with **RM699BV** - see page 42. ② For gold-plated contacts - when the maximum values given have been exceeded, the gold layer is destroyed. Then, the advantages of gold-plating disappear and the values are as for AgSnO₂ contacts (see beside). In consequence however, the life of the contact may be shorter than that of the normal power contact. ③ Refers version for long lines (max. 300 m) **PIR6W-1P-230VAC/DC-10** - relay which includes the socket **PI6W-1P-230VAC/DC-10** with integrated anti-interference filter (designed on the basis of appropriately selected elements R and C, and Zener diode), resistant to occurrence of induced voltages in long distances of control wires, designed exclusively for cooperation with operational relay **RM699BV-3011-85-1060**.

Input data Table 1

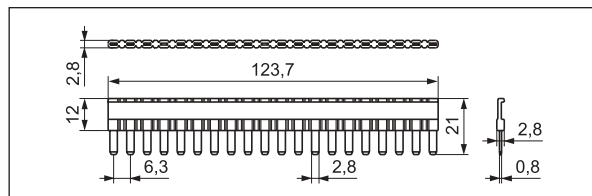
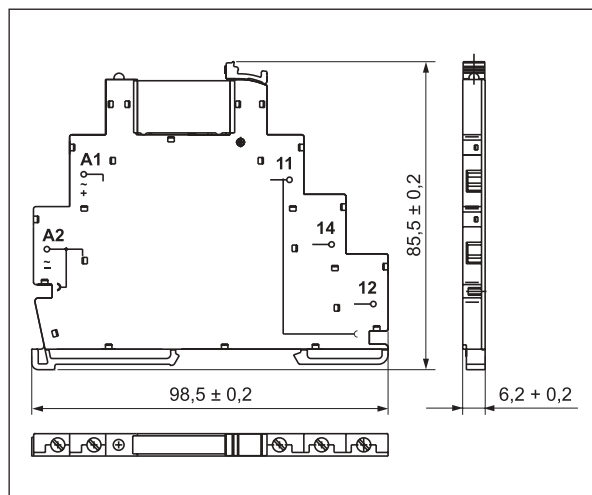
Interface relay code	Input - voltage range V	
	min.	max.
PIR6W-1P-12VDC	9,6	14,4
PIR6W-1P-24VDC	19,2	28,0
PIR6W-1P-36VDC	28,8	40,0
PIR6W-1P-24VAC/DC	19,2	26,4
PIR6W-1P-42VAC/DC	33,6	50,0
PIR6W-1P-115VAC/DC	92,0	130,0
PIR6W-1P-230VAC/DC	184,0	253,0
PIR6W-1P-230VAC/DC-10 ④	196,0 ④	253,0
PIR6W-1P-12VDC-01 ②	9,6	14,4
PIR6W-1P-24VDC-01 ②	19,2	28,0
PIR6W-1P-36VDC-01 ②	28,8	40,0
PIR6W-1P-24VAC/DC-01 ②	19,2	26,4
PIR6W-1P-42VAC/DC-01 ②	33,6	50,0
PIR6W-1P-115VAC/DC-01 ②	92,0	130,0
PIR6W-1P-230VAC/DC-01 ②	184,0	253,0

The data in bold type pertain to the standard versions of the relays.
 ② Version with gold-plated contacts.
 ③ Version for long lines (max. 300 m), with anti-interference filter.
 ④ 196,0 V at supply voltage AC; 184,0 V at supply voltage DC

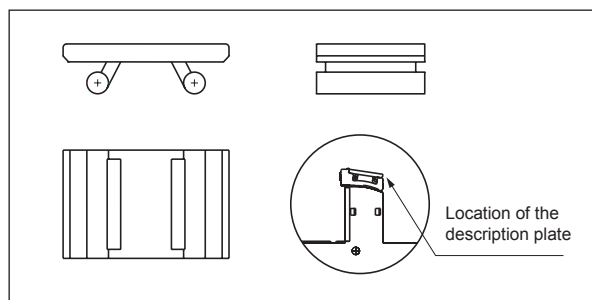
Connection diagrams



Dimensions



Interconnection strip type **ZG20**



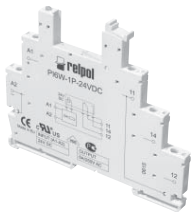
Description plate **PI6W-1246**

Ordering codes

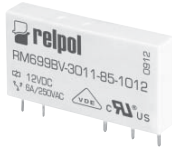
Ordering codes **PIR6W-1P-...** are specified in Tables 1, 2, "Interface relay code" column.

Mounting

Relays **PIR6W-1P-...** are designed for direct mounting on 35 mm rail mount acc. to PN-EN 60715. Maximum size of wires 1 x 2,5 mm² (1 x 14 AWG). Rated contactability 2 x 1,5 mm² (2 x 16 AWG). Maximum screw torque: 0,3 Nm. Interface relay **PIR6W-1P-...** consists of: socket with electronic **PI6W-1P-...** and electromagnetic relay **RM699BV**. **PIR6W-1P-...** may be linked with interconnection strip type **ZG20**. Strip **ZG20** bridges common input or output signals, maximum permissible current is 36 A / 250 V AC. Colours of strips: **ZG20-1** red, **ZG20-2** black, **ZG20-3** blue. Description plates of **PI6W-1246** type are offered for **PIR6W-1P-...** relays; they are delivered with the relays, not mounted.



PI6W-1P-...



RM699BV



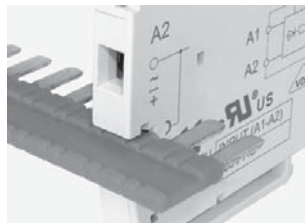
ZG20



PI6W-1246



Green LED:
signalling the operation status of the relay.



Interconnection strip ZG20:
bridging of common input or output signals.



Movable ejector:
protection and easy replacement of the operational relay.

Table of codes

Table 2

Interface relay code	Rated input voltage U_n Ⓢ	Power of input control circuit	Socket code	Operational relay code	Rated voltage of operational relay U_s Ⓢ
PIR6W-1P-12VDC	12 V DC	0,3 W	PI6W-1P-12VDC	RM699BV-3011-85-1012	12 V DC
PIR6W-1P-24VDC	24 V DC	0,3 W	PI6W-1P-24VDC	RM699BV-3011-85-1024	24 V DC
PIR6W-1P-36VDC	36 V DC	0,3 W	PI6W-1P-36VDC	RM699BV-3011-85-1024	24 V DC
PIR6W-1P-24VAC/DC	24 V AC/DC	0,3 VA / 0,3 W	PI6W-1P-24VAC/DC	RM699BV-3011-85-1024	24 V DC
PIR6W-1P-42VAC/DC	42 V AC/DC	0,4 VA / 0,4 W	PI6W-1P-42VAC/DC	RM699BV-3011-85-1024	24 V DC
PIR6W-1P-115VAC/DC	115 V AC/DC	0,9 VA / 0,9 W	PI6W-1P-115VAC/DC	RM699BV-3011-85-1024	24 V DC
PIR6W-1P-230VAC/DC	230 V AC/DC	0,8 VA / 0,8 W	PI6W-1P-230VAC/DC	RM699BV-3011-85-1060	60 V DC
PIR6W-1P-230VAC/DC-10 Ⓢ	230 V AC/DC	2,1 VA / 1,0 W	PI6W-1P-230VAC/DC-10	RM699BV-3011-85-1060	60 V DC
PIR6W-1P-12VDC-01 Ⓢ	12 V DC	0,3 W	PI6W-1P-12VDC	RM699BV-3211-85-1012	12 V DC
PIR6W-1P-24VDC-01 Ⓢ	24 V DC	0,3 W	PI6W-1P-24VDC	RM699BV-3211-85-1024	24 V DC
PIR6W-1P-36VDC-01 Ⓢ	36 V DC	0,3 W	PI6W-1P-36VDC	RM699BV-3211-85-1024	24 V DC
PIR6W-1P-24VAC/DC-01 Ⓢ	24 V AC/DC	0,3 VA / 0,3 W	PI6W-1P-24VAC/DC	RM699BV-3211-85-1024	24 V DC
PIR6W-1P-42VAC/DC-01 Ⓢ	42 V AC/DC	0,4 VA / 0,4 W	PI6W-1P-42VAC/DC	RM699BV-3211-85-1024	24 V DC
PIR6W-1P-115VAC/DC-01 Ⓢ	115 V AC/DC	0,9 VA / 0,9 W	PI6W-1P-115VAC/DC	RM699BV-3211-85-1024	24 V DC
PIR6W-1P-230VAC/DC-01 Ⓢ	230 V AC/DC	0,8 VA / 0,8 W	PI6W-1P-230VAC/DC	RM699BV-3211-85-1060	60 V DC

The data in bold type pertain to the standard versions of the relays. Ⓢ Version with gold-plated contacts. Ⓢ Version for long lines (max. 300 m), with anti-interference filter. Ⓢ It shall be remarked that rated input voltage of the operational relay U_s not always complies with the rated input voltage U_n (which is important on ordering operational relays for sockets).