

PIR6W-1P-...

interface relays

RM699BV + PI6W-1P-...



- Width 6,2 mm • Interface relay **PIR6W-1P-...** consists of: screw terminals socket, with electronic **PI6W-1P-...**, miniature operational relay - electromagnetic **RM699BV** ①
- 35 mm rail mount acc. to EN 60715 • May be linked with 20-pole interconnection strip type **ZG20** • Equipped in LED green • Version for long control lines, with anti-interference filter (**PIR6W-1P-230V...-10** ②)
- Accessories: description plates **PI6W-1246**
- Recognitions, certifications, directives: RoHS,

Output circuit (RM699BV) - contact data ①

Number and type of contacts		1 CO	
Contact material		AgSnO₂	AgSnO ₂ /Au hard gold plating ②
Max. switching voltage		400 V AC / 250 V DC	30 V AC / 36 V DC 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; 0,15 A / 250 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 circuit			
Rated voltage	50/60 Hz AC	230 V	
	DC	12, 24 , 36 V	
	AC: 50/60 Hz AC/DC	24, 42, 115, 230 V	
Must release voltage		AC: ≥ 0,2 U _n	AC: ≥ 0,1 U _n 230 V AC
		AC: ≥ 0,35 U _n 230 V AC ③	AC: ≥ 0,35 U _n 230 V AC/DC ③
		DC: ≥ 0,1 U _n	
Operating range of supply voltage		see Table 1	
Must operate voltage		AC: ≤ 0,8 U _n	AC: 0,6...0,85 U _n ③
		DC: ≤ 0,8 U _n	
Rated power consumption	AC	≤ 0,8 ... 0,9 VA	
	DC	0,3 W	
	AC/DC	0,3 ... 2,1 VA / 0,3 ... 1,0 W	
Max. length of control line		≤ 300 m	AC control voltage ③
Insulation according to EN 60664-1			
Insulation rated voltage		250 V AC	
Rated surge voltage		4 000 V 1,2 / 50 μs	
Overvoltage 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
	• 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	≥ 6 mm	
	• creepage	≥ 8 mm	
Mass - output distance	• clearance	≥ 3 mm	
	• creepage	≥ 3,6 mm	

The data in bold type relate to the standard versions of the relays. ① Characteristics of the contact capacity of relays **PIR6W-1P-...** with **RM699BV** - see www.repol.com.pl 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), and electrical life of these contacts may be shorter than of normal contacts. ③ Refers version for long control lines (max. 300 m) **PIR6W-1P-230V...-10** - relay which includes the socket **PI6W-1P-230V...-10** with integrated anti-interference filter, resistant to occurrence of induced voltages in long distances of control wires, and operational miniature relay **RM699BV-3011-85-1060**.

PIR6W-1P-...

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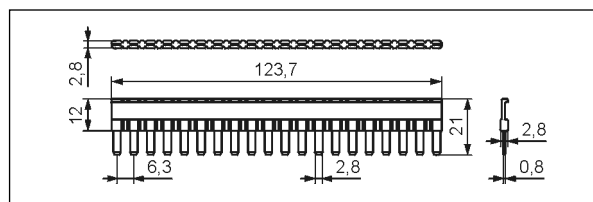
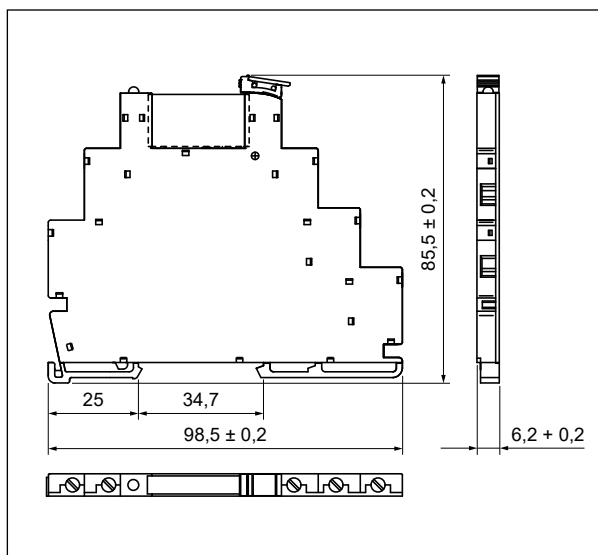
General data

Operating time (typical value)	AC: 11 ms	DC: 8 ms	AC, AC/DC: 20 ms	0,85 U _n ③
Release time (typical value)	AC: 15 ms	DC: 10 ms	AC, AC/DC: 18 ms	④
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)	98,5 x 6,2 x 85,5 mm			
Weight	45 g			
Ambient temperature	-40...+70 °C			
(non-condensation and/or icing)	• storage	-40...+60 °C		
	• operating	12 V DC, 24 V DC		
		-40...+50 °C	230 V AC ③, 230 V AC/DC ④	
		-40...+55 °C	other voltages	
Cover protection category	IP 20	EN 60529		
Environmental protection	RTI	EN 61810-7		
Shock resistance	10 g			
Vibration resistance	5 g	10...500 Hz		

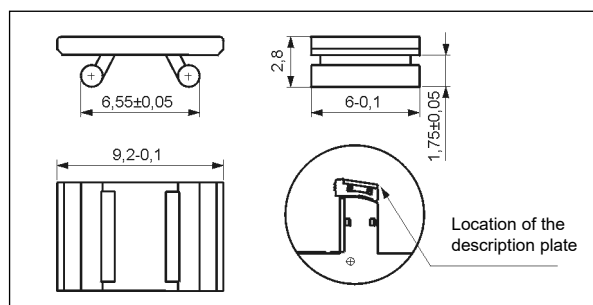
③ Refers version for long control lines (max. 300 m), with integrated anti-interference filter.

④ For versions 230VAC/DC and 230VAC/DC-10: the distance at least 5 mm between the relays mounted side by side.

Dimensions



20-pole interconnection strip type ZG20



Description plate PI6W-1246

PRECAUTIONS:

1. Ensure that the parameters of the product described in its specification provide a safety margin for the appropriate operation of the device or system and never use the product in circumstances which exceed the parameters of the product. 2. Never touch any live parts of the device. 3. Ensure that the product has been connected correctly. An incorrect connection may cause malfunction, excessive heating or risk of fire. 4. In case of any risk of any serious material loss or death or injuries of humans or animals, the devices or systems shall be designed so to equip them with double safety system to guarantee their reliable operation.

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Mounting

Relays **PIR6W-1P-...** are designed for direct mounting on 35 mm rail mount acc. to EN 60715. **Connections:** max. cross section of the cables: 1 x 2,5 mm² / 2 x 1,5 mm² (1 x 14 / 2 x 16 AWG), stripping length: 9 mm, max. tightening moment for the terminal: 0,3 Nm.

Interface relay **PIR6W-1P-...** consists of: screw terminals socket, with electronic **PI6W-1P-...**, miniature operational relay - electromagnetic **RM699BV**.

PIR6W-1P-... may be linked with 20-pole 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.

⚡ For versions 230VAC/DC and 230VAC/DC-10: the distance at least 5 mm between the relays mounted side by side.



PI6W-1P-...



RM699BV



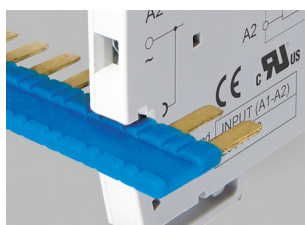
ZG20



PI6W-1246



Green LED:
signalling the operation
status of the relay.



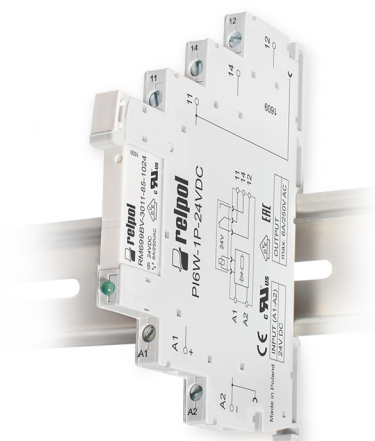
Interconnection strip ZG20:
bridging of common
input or output signals.



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

Interface relays PIR6W-1P-...

set: relay RM699BV
+ socket PI6W-1P-...



PIR6W-1P-...

interface relays

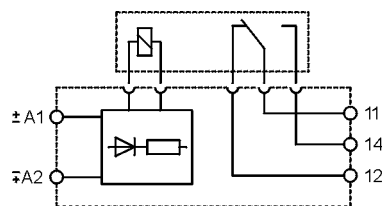
Input data

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 ④	184,0	253,0
PIR6W-1P-230VAC	184,0	253,0
PIR6W-1P-230VAC/DC-10 ④ ⑤	⑤ 196,0	253,0
PIR6W-1P-230VAC-10 ④	196,0	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 </td
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 ④	184,0	253,0
PIR6W-1P-230VAC-01 ②	184,0	253,0

Connection diagrams

PIR6W-1P-..., PIR6W-1P-...-01



PIR6W-1P-230V...-10

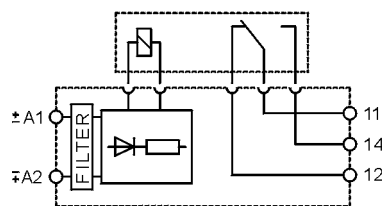


Table of codes

Table 2

Interface relay code	Rated input voltage U_n ④	Power of input circuit	Socket code	Operational relay code	Rated voltage of operational relay U_s ⑥
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 ④	230 V AC/DC	0,8 VA / 0,8 W	PI6W-1P-230VAC/DC	RM699BV-3011-85-1060	60 V DC
PIR6W-1P-230VAC	230 V AC	≤ 0,8 VA	PI6W-1P-230VAC	RM699BV-3011-85-1060	60 V DC
PIR6W-1P-230VAC/DC-10 ④ ⑤	230 V AC/DC	2,1 VA / 1,0 W	PI6W-1P-230VAC/DC-10	RM699BV-3011-85-1060	60 V DC
PIR6W-1P-230VAC-10 ④	230 V AC	≤ 0,9 VA	PI6W-1P-230VAC-10	RM699BV-3011-85-1060	60 V DC
PIR6W-1P-12VDC-01 ②	12 V DC	0,3 W	PI6W-1P-12VDC	RM699BV-3211-85-1012	12 V DC
PIR6W-1P-24VDC-01 ②	24 V DC	0,3 W	PI6W-1P-24VDC	RM699BV-3211-85-1024	24 V DC
PIR6W-1P-36VDC-01 ②	36 V DC	0,3 W	PI6W-1P-36VDC	RM699BV-3211-85-1024	24 V DC
PIR6W-1P-24VAC/DC-01 ②	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 ②	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 ②	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 ② ④	230 V AC/DC	0,8 VA / 0,8 W	PI6W-1P-230VAC/DC	RM699BV-3211-85-1060	60 V DC
PIR6W-1P-230VAC-01 ②	230 V AC	≤ 0,8 VA	PI6W-1P-230VAC	RM699BV-3211-85-1060	60 V DC

The data in bold type relate to the standard versions of the relays. ② Version with gold-plated contacts. ③ Version for long control lines (max. 300 m), with anti-interference filter. ④ For versions 230VAC/DC and 230VAC/DC-10: the distance at least 5 mm between the relays mounted side by side. ⑤ 196,0 V at supply voltage AC; 184,0 V at supply voltage DC. ⑥ 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).

Ordering codes

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