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** ❶
- 35 mm rail mount acc. to PN-EN 60715 • May be linked with interconnection strip type **ZG20** • Equipped in LED green • Version for long control lines, with anti-interference filter (**PIR6W-1P-230VAC/DC-10** ❸)
- Accessories: description plates **PI6W-1246**
- Recognitions, certifications, directives: RoHS,

Output circuit (RM699BV) - contact data ❶

Number and type of contacts		1 CO		
Contact material		**$AgSnO_2$**		$AgSnO_2$/Au 3 µm ❷
Max. switching voltage		400 V AC / 250 V DC		30 V AC / 36 V DC ❷
Min. switching voltage	AC / DC	10 V		5 V
Rated load	AC1	6 A / 250 V AC		0,05 A / 30 V AC ❷
	DC1	6 A / 24 V DC; 0,15 A / 250 V DC		0,05 A / 36 V DC ❷
Min. switching current		100 mA		10 mA
Max. inrush current		10 A 20 ms		0,1 A 20 ms ❷
Rated current		6 A		0,05 A ❷
Max. breaking capacity	AC1	1 500 VA		1,2 VA ❷
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		

Input 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 ❸	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 ❸	DC: ≤ 0,8 U_n ❸
Rated power consumption	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 ❸	

Insulation according to PN-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 / 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 ❸
Release time (typical value)		AC: 15 ms	DC: 10 ms	AC/DC: 18 ms ❸
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...+60 °C	12, 24 V DC	-40...+50 °C 230 V AC/DC ❹
		-40...+55 °C	other voltages	
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. ❶ Characteristics of the contact capacity of relays **PIR6W-1P-... with RM699BV** - see catalogue "Relays" and www.relpol.com.pl ❷ 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), and electrical life of these contacts may be shorter than of normal contacts. ❸ Refers version for long control lines (max. 300 m) **PIR6W-1P-230VAC/DC-10** - relay which includes the socket **PI6W-1P-230VAC/DC-10** with integrated anti-interference filter (desigend 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, and operational miniature relay **RM699BV-3011-85-1060**. ❹ For versions 230VAC/DC and 230VAC/DC-10: the distance of min. 5 mm between the mounting relays.

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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 ❹	**184,0**	**253,0**
PIR6W-1P-230VAC/DC-10 ❸ ❹	196,0 ❺	253,0
PIR6W-1P-12VDC-01 ❷	9,6	14,4
PIR6W-1P-24VDC-01 ❷	**19,2**	**28,0**
PIR6W-1P-36VDC-01 ❷	28,8	40,0
PIR6W-1P-24VAC/DC-01 ❷	19,2	26,4
PIR6W-1P-42VAC/DC-01 ❷	33,6	50,0
PIR6W-1P-115VAC/DC-01 ❷	92,0	130,0
PIR6W-1P-230VAC/DC-01 ❷ ❹	**184,0**	**253,0**

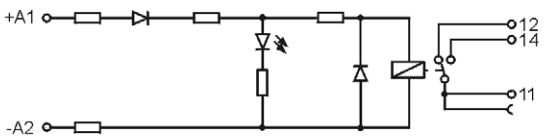
The data in bold type pertain to the standard versions of the relays.
❷ Version with gold-plated contacts.
❸ Version for long control lines (max. 300 m), with anti-interference filter.
❹ For versions 230VAC/DC and 230VAC/DC-10: the distance of min. 5 mm between the mounting relays.
❺ 196,0 V at supply voltage AC; 184,0 V at supply voltage DC

Ordering codes

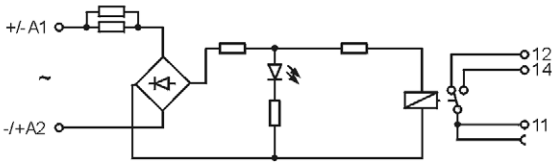
Ordering codes **PIR6W-1P-...** are specified in Tables 1, 2, „Interface relay code" column.

Connection diagrams

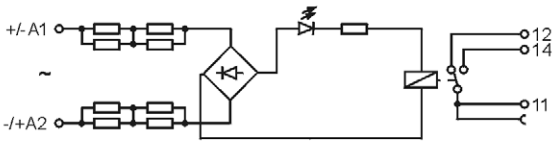
PIR6W-1P-12VDC, PIR6W-1P-12VDC-01
PIR6W-1P-24VDC, PIR6W-1P-24VDC-01
PIR6W-1P-36VDC, PIR6W-1P-36VDC-01



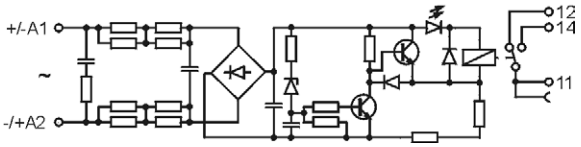
PIR6W-1P-24VAC/DC, PIR6W-1P-24VAC/DC-01
PIR6W-1P-42VAC/DC, PIR6W-1P-42VAC/DC-01



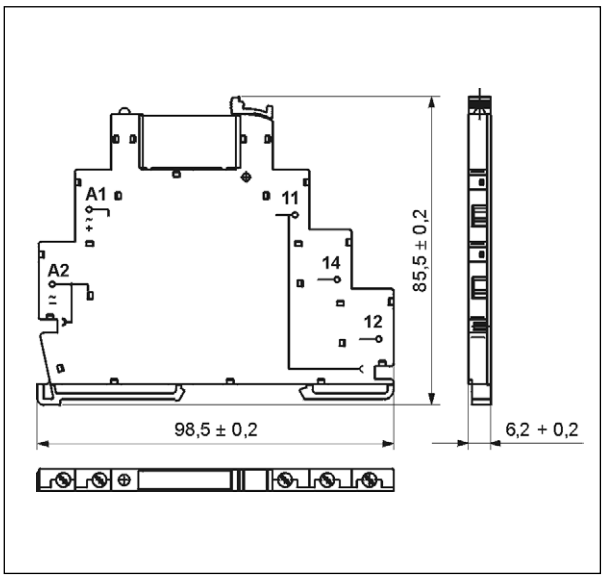
PIR6W-1P-115VAC/DC, PIR6W-1P-115VAC/DC-01
PIR6W-1P-230VAC/DC, PIR6W-1P-230VAC/DC-01

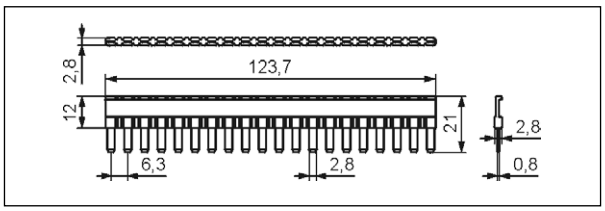


PIR6W-1P-230VAC/DC-10

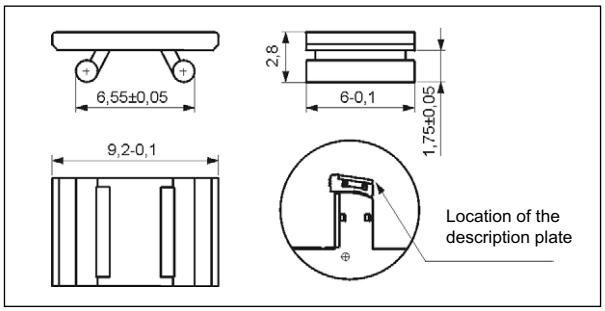


Dimensions





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.

Mounting

Relays **PIR6W-1P-...** ❹ are designed for direct mounting on 35 mm rail mount acc. to PN-EN 60715. **Connections:** max. cross section of the cables: 1 x 2,5 mm^2 / 2 x 1,5 mm^2 (1 x 14 / 2 x 16 AWG), length of the cable deinsulation: 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 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.

❹ For versions 230VAC/DC and 230VAC/DC-10: the distance of min. 5 mm between the mounting relays.

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 ❻	Power of input circuit	Socket code	Operational relay code	Rated voltage of operational relay U_s ❻
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 ❹	**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 ❸ ❹	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 ❷	12 V DC	0,3 W	PI6W-1P-12VDC	RM699BV-3211-85-1012	12 V DC
PIR6W-1P-24VDC-01 ❷	**24 V DC**	**0,3 W**	**PI6W-1P-24VDC**	**RM699BV-3211-85-1024**	**24 V DC**
PIR6W-1P-36VDC-01 ❷	36 V DC	0,3 W	PI6W-1P-36VDC	RM699BV-3211-85-1024	24 V DC
PIR6W-1P-24VAC/DC-01 ❷	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 ❷	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 ❷	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 ❷ ❹	**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. ❷ Version with gold-plated contacts. ❸ Version for long control lines (max. 300 m), with anti-interference filter. ❹ For versions 230VAC/DC and 230VAC/DC-10: the distance of min. 5 mm between the mounting relays. ❻ 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).

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