





PIR6WB-1PS-...

interface relays with spring terminals

RM699BV + PI6WB-1PS-... RSR30 + PI6WB-1PS-...



- Width 6,2 mm • Interface relay **PIR6WB-1PS-...** consists of: spring terminals ① universal socket, with electronic **PI6WB-1PS-...**, miniature operational relay - electromagnetic **RM699BV** or solid state **RSR30** ②
- 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 (**PIR6WB-1P-230VAC/DC-10** ③)
- Accessories: description plates **PI6W-1246**
- Recognitions, certifications, directives: RoHS,    

Output circuit (RM699BV) - contact data ④

Number and type of contacts (code of output)	1 CO (R) ⑤	1 CO (R-01) ⑤
Contact material	AgSnO₂	AgSnO ₂ /Au 3 μm ⑤
Max. switching voltage	400 V AC / 250 V DC	30 V AC / 36 V DC ⑤
Min. switching voltage	10 V	5 V
Rated load	AC1 DC1	0,05 A / 30 V AC ⑤ 0,05 A / 36 V DC ⑤
Min. switching current	100 mA	10 mA
Max. inrush current	10 A 20 ms	0,1 A 20 ms ⑤
Rated current	6 A	0,05 A ⑤
Max. breaking capacity	AC1	1,2 VA ⑤
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	

Output circuit (RSR30) - output data ④

Type of output (code of output)	Triac (T) ⑤ max. 2 A	Transistor (C) ⑤ max. 1 A	Transistor (O) ⑤ max. 2 A
Number and type of outputs	1 NO	1 NO	1 NO
Rated voltage	240 V AC	48 V DC	24 V DC
Max. output voltage	280 V AC	60 V DC	32 V DC
Min. output voltage	12 V AC	1,5 V DC	1,5 V DC
Rated continuous output current	AC1 DC1	1 A	2 A
Min. making capacity current	50 mA	1 mA	1 mA
Max. off-state leakage current (rest condition)	1,5 mA	1 mA	1 mA
Max. on-state voltage drop on the connection (operating state)	1,2 V	0,4 V	0,24 V
Operating switching frequency		10 Hz	10 Hz

Input circuit

Rated voltage	DC AC: 50/60 Hz AC/DC	6 ... 60 V 24 ... 230 V
Must release voltage		AC: ≥ 0,2 U _n AC: ≥ 0,35 U _n ④ DC: ≥ 0,1 U _n
Operating range of supply voltage		0,8...1,2 U _n 0,85...1,2 U _n 6 V DC
Must operate voltage		≤ 0,8 U _n ≤ 0,85 U _n 6 V DC AC: 0,6...0,85 U _n ④
Rated power consumption	DC AC/DC	0,2 ... 0,5 W 0,5 ... 1,2 VA / 0,4 ... 1,2 W
Max. length of control line		≤ 300 m AC control voltage ④

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 • input - output • contact clearance
	4 000 V AC 50/60 Hz, 1 min., type of insulation: reinforced 6 000 V 1,2 / 50 μs 1 000 V AC 50/60 Hz, 1 min., output R and R-01, type of clearance: micro-disconnection
Input - output distance • clearance / creepage	≥ 6 mm / ≥ 8 mm

The data in bold type pertain to the standard versions of the relays. ① Spring fixing terminals for electric wires (cage springs CAGE CLAMP® - is the registered trademark of WAGO Kontakttechnik GmbH & Co. KG, Germany). ② Characteristics of the contact capacity of relays **PIR6WB-1PS-...** with **RM699BV** - see catalogue "Relays" and www.relpol.com.pl; **PIR6WB-1PS-...** with **RSR30** - see catalogue "Solid state relays" and www.relpol.com.pl ③ 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. ④ Refers version for long control lines (max. 300 m) **PIR6WB-1P-230VAC/DC-10** - relay which includes the socket **PI6WB-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, and operational miniature relay **RM699BV-3011-85-1060**. ⑤ Type of outputs: **R** - contacts AgSnO₂; **R01** - contacts AgSnO₂/Au 3 μm; **T** - triac; **C** - transistor; **O** - transistor.

PIR6WB-1PS-...

interface relays with spring terminals

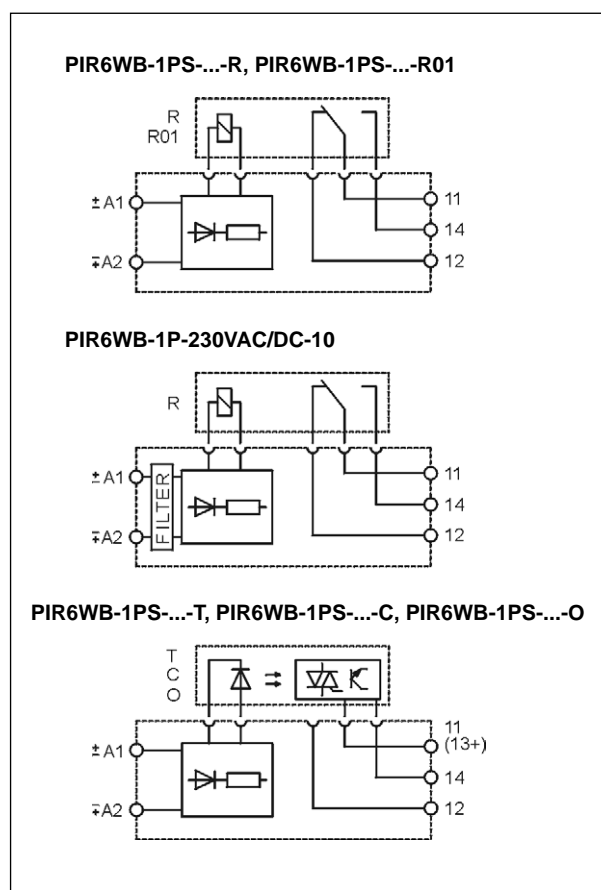
General data

Operating time (typical value)	PIR6WB-1PS-...-R/-R01: DC: 8 ms AC/DC: 20 ms PIR6WB-1PS-...-T: DC: 100 μ s AC/DC: 10 ms PIR6WB-1PS-...-C/-O: DC: 50 μ s AC/DC: 10 ms
Release time (typical value)	PIR6WB-1PS-...-R/-R01: DC: 10 ms AC/DC: 25 ms (18 ms ④) PIR6WB-1PS-...-T: DC: 1/2 cycle + 1 ms AC/DC: 30 ms PIR6WB-1PS-...-C/-O: DC: 600 μ s AC/DC: 20 ms
Electrical life • resistive AC1	PIR6WB-1PS-...-R: > 0,5 x 10 ⁵ 6 A, 250 V AC
Mechanical life (cycles)	PIR6WB-1PS-...-R/-R01: > 10 ⁷
Dimensions (L x W x H)	98,3 x 6,2 x 84,6 mm
Weight	55 g
Ambient temperature • storage	PIR6WB-1PS-...-R/-R01/-T: -40...+70 °C ...-C/-O: -25...+70 °C PIR6WB-1P-230VAC/DC-10 ④: -25...+70 °C
• operating	PIR6WB-1PS-...-R/-R01: -40...+55 °C ...-T/-C/-O: -25...+55 °C PIR6WB-1PS-230VAC/DC-R/-R01/-C/-O: -25...+50 °C ⑥ PIR6WB-1P-230VAC/DC-10 ④: -25...+50 °C ⑥
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

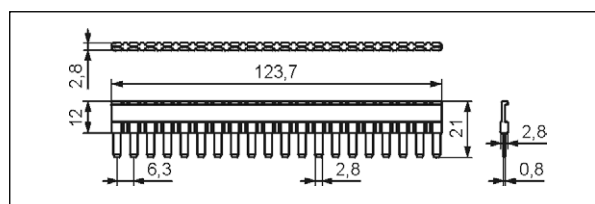
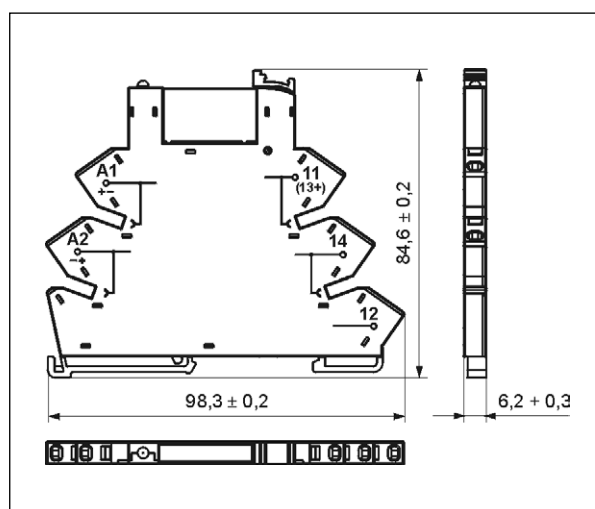
④ Version for long control lines (max. 300 m), with anti-interference filter.

⑥ For versions 230VAC/DC and 230VAC/DC-10: the distance of min. 5 mm between the mounting relays.

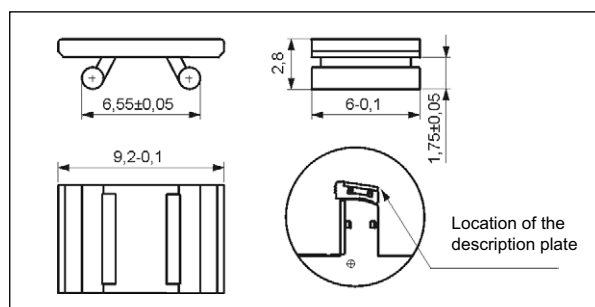
Connection diagrams



Dimensions



Interconnection strip type ZG20



Description plate PI6W-1246

Ordering codes

Ordering codes **PIR6WB-1PS-...** are specified in Table 1, „Interface relay code” column.

PIR6WB-1PS-...

interface relays with spring terminals

Wire connection

The drawings present the sequence of operations in course of inserting wires to the spring terminal, and the recommended screwdriver to be used for opening of case springs, comply with the DIN 5264 FORM „A”.



Mounting

Relays **PIR6WB-1PS-...** ⑥ are designed for direct mounting on 35 mm rail mount acc. to PN-EN 60715. **Connections:** max. cross section of the cables: 1 x 0,22...2,5 mm² (1 x 24...14 AWG), length of the cable deinsulation: 9 mm.

Interface relay **PIR6WB-1PS-...** consists of: spring terminals universal socket, with electronic **PI6WB-1PS-...**, miniature operational relay - electromagnetic **RM699BV** or solid state **RSR30** ⑥.

PIR6WB-1PS-... 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 **PIR6WB-1PS-...** relays; they are delivered with the relays, not mounted.

⑥ For versions 230VAC/DC and 230VAC/DC-10: the distance of min. 5 mm between the mounting relays.



PI6WB-1PS-...



RM699BV



RSR30



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.

PIR6WB-1PS-...-R

Interface relay:
socket PI6WB-1PS-...
and relay RM699BV



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.

PIR6WB-1PS-...

interface relays with spring terminals

Table of codes

Table 1

Interface relay code	Rated input voltage U_n ⑦	Power of input circuit	Socket code	Operational relay code	Rated voltage of operational relay U_s ⑦
PIR6WB-1PS-6VDC-R	6 V DC	0,3 W	PI6WB-1PS-6VDC	RM699BV-3011-85-1005	5 V DC
PIR6WB-1PS-12VDC-R	12 V DC	0,2 W	PI6WB-1PS-12/24VDC	RM699BV-3011-85-1012	12 V DC
PIR6WB-1PS-24VDC-R	24 V DC	0,3 W	PI6WB-1PS-12/24VDC	RM699BV-3011-85-1024	24 V DC
PIR6WB-1PS-36VDC-R	36 V DC	0,3 W	PI6WB-1PS-36VDC	RM699BV-3011-85-1024	24 V DC
PIR6WB-1PS-48VDC-R	48 V DC	0,4 W	PI6WB-1PS-48VDC	RM699BV-3011-85-1024	24 V DC
PIR6WB-1PS-60VDC-R	60 V DC	0,5 W	PI6WB-1PS-60VDC	RM699BV-3011-85-1024	24 V DC
PIR6WB-1PS-24VAC/DC-R	24 V AC/DC	0,5 VA / 0,4 W	PI6WB-1PS-24VAC/DC	RM699BV-3011-85-1012	12 V DC
PIR6WB-1PS-42VAC/DC-R	42 V AC/DC	0,5 VA / 0,4 W	PI6WB-1PS-42VAC/DC	RM699BV-3011-85-1024	24 V DC
PIR6WB-1PS-115VAC/DC-R	115 V AC/DC	1,2 VA / 1,2 W	PI6WB-1PS-115VAC/DC	RM699BV-3011-85-1024	24 V DC
PIR6WB-1PS-230VAC/DC-R ⑥	230 V AC/DC	1,2 VA / 1,2 W	PI6WB-1PS-230VAC/DC	RM699BV-3011-85-1048	48 V DC
PIR6WB-1P-230VAC/DC-10 ④ ⑤	230 V AC/DC	2,1 VA / 1,0 W	PI6WB-1P-230VAC/DC-10	RM699BV-3011-85-1060	60 V DC
PIR6WB-1PS-6VDC-R01 ⑧	6 V DC	0,3 W	PI6WB-1PS-6VDC	RM699BV-3211-85-1005	5 V DC
PIR6WB-1PS-12VDC-R01 ⑧	12 V DC	0,2 W	PI6WB-1PS-12/24VDC	RM699BV-3211-85-1012	12 V DC
PIR6WB-1PS-24VDC-R01 ⑧	24 V DC	0,3 W	PI6WB-1PS-12/24VDC	RM699BV-3211-85-1024	24 V DC
PIR6WB-1PS-36VDC-R01 ⑧	36 V DC	0,3 W	PI6WB-1PS-36VDC	RM699BV-3211-85-1024	24 V DC
PIR6WB-1PS-48VDC-R01 ⑧	48 V DC	0,4 W	PI6WB-1PS-48VDC	RM699BV-3211-85-1024	24 V DC
PIR6WB-1PS-60VDC-R01 ⑧	60 V DC	0,5 W	PI6WB-1PS-60VDC	RM699BV-3211-85-1024	24 V DC
PIR6WB-1PS-24VAC/DC-R01 ⑧	24 V AC/DC	0,5 VA / 0,4 W	PI6WB-1PS-24VAC/DC	RM699BV-3211-85-1012	12 V DC
PIR6WB-1PS-42VAC/DC-R01 ⑧	42 V AC/DC	0,5 VA / 0,4 W	PI6WB-1PS-42VAC/DC	RM699BV-3211-85-1024	24 V DC
PIR6WB-1PS-115VAC/DC-R01 ⑧	115 V AC/DC	1,2 VA / 1,2 W	PI6WB-1PS-115VAC/DC	RM699BV-3211-85-1024	24 V DC
PIR6WB-1PS-230VAC/DC-R01 ⑧ ⑥	230 V AC/DC	1,2 VA / 1,2 W	PI6WB-1PS-230VAC/DC	RM699BV-3211-85-1048	48 V DC
PIR6WB-1PS-6VDC-T	6 V DC	0,2 W	PI6WB-1PS-6VDC	RSR30-D05-A1-24-020-1	5 V DC
PIR6WB-1PS-12VDC-T	12 V DC	0,2 W	PI6WB-1PS-12/24VDC	RSR30-D12-A1-24-020-1	12 V DC
PIR6WB-1PS-24VDC-T	24 V DC	0,3 W	PI6WB-1PS-12/24VDC	RSR30-D24-A1-24-020-1	24 V DC
PIR6WB-1PS-36VDC-T	36 V DC	0,3 W	PI6WB-1PS-36VDC	RSR30-D24-A1-24-020-1	24 V DC
PIR6WB-1PS-48VDC-T	48 V DC	0,4 W	PI6WB-1PS-48VDC	RSR30-D24-A1-24-020-1	24 V DC
PIR6WB-1PS-60VDC-T	60 V DC	0,5 W	PI6WB-1PS-60VDC	RSR30-D24-A1-24-020-1	24 V DC
PIR6WB-1PS-24VAC/DC-T	24 V AC/DC	0,5 VA / 0,4 W	PI6WB-1PS-24VAC/DC	RSR30-D12-A1-24-020-1	12 V DC
PIR6WB-1PS-42VAC/DC-T	42 V AC/DC	0,5 VA / 0,4 W	PI6WB-1PS-42VAC/DC	RSR30-D24-A1-24-020-1	24 V DC
PIR6WB-1PS-115VAC/DC-T	115 V AC/DC	1,0 VA / 1,0 W	PI6WB-1PS-115VAC/DC	RSR30-D24-A1-24-020-1	24 V DC
PIR6WB-1PS-6VDC-C	6 V DC	0,2 W	PI6WB-1PS-6VDC	RSR30-D05-D1-04-025-1	5 V DC
PIR6WB-1PS-12VDC-C	12 V DC	0,2 W	PI6WB-1PS-12/24VDC	RSR30-D12-D1-04-025-1	12 V DC
PIR6WB-1PS-24VDC-C	24 V DC	0,3 W	PI6WB-1PS-12/24VDC	RSR30-D24-D1-04-025-1	24 V DC
PIR6WB-1PS-36VDC-C	36 V DC	0,3 W	PI6WB-1PS-36VDC	RSR30-D24-D1-04-025-1	24 V DC
PIR6WB-1PS-48VDC-C	48 V DC	0,4 W	PI6WB-1PS-48VDC	RSR30-D24-D1-04-025-1	24 V DC
PIR6WB-1PS-60VDC-C	60 V DC	0,5 W	PI6WB-1PS-60VDC	RSR30-D24-D1-04-025-1	24 V DC
PIR6WB-1PS-24VAC/DC-C	24 V AC/DC	0,5 VA / 0,4 W	PI6WB-1PS-24VAC/DC	RSR30-D12-D1-04-025-1	12 V DC
PIR6WB-1PS-42VAC/DC-C	42 V AC/DC	0,5 VA / 0,4 W	PI6WB-1PS-42VAC/DC	RSR30-D24-D1-04-025-1	24 V DC
PIR6WB-1PS-115VAC/DC-C	115 V AC/DC	1,0 VA / 1,0 W	PI6WB-1PS-115VAC/DC	RSR30-D24-D1-04-025-1	24 V DC
PIR6WB-1PS-230VAC/DC-C ⑥	230 V AC/DC	1,0 VA / 1,0 W	PI6WB-1PS-230VAC/DC	RSR30-D48-D1-04-025-1	48 V DC
PIR6WB-1PS-6VDC-O	6 V DC	0,2 W	PI6WB-1PS-6VDC	RSR30-D05-D1-02-040-1	5 V DC
PIR6WB-1PS-12VDC-O	12 V DC	0,2 W	PI6WB-1PS-12/24VDC	RSR30-D12-D1-02-040-1	12 V DC
PIR6WB-1PS-24VDC-O	24 V DC	0,3 W	PI6WB-1PS-12/24VDC	RSR30-D24-D1-02-040-1	24 V DC
PIR6WB-1PS-36VDC-O	36 V DC	0,3 W	PI6WB-1PS-36VDC	RSR30-D24-D1-02-040-1	24 V DC
PIR6WB-1PS-48VDC-O	48 V DC	0,4 W	PI6WB-1PS-48VDC	RSR30-D24-D1-02-040-1	24 V DC
PIR6WB-1PS-60VDC-O	60 V DC	0,5 W	PI6WB-1PS-60VDC	RSR30-D24-D1-02-040-1	24 V DC
PIR6WB-1PS-24VAC/DC-O	24 V AC/DC	0,5 VA / 0,4 W	PI6WB-1PS-24VAC/DC	RSR30-D12-D1-02-040-1	12 V DC
PIR6WB-1PS-42VAC/DC-O	42 V AC/DC	0,5 VA / 0,4 W	PI6WB-1PS-42VAC/DC	RSR30-D24-D1-02-040-1	24 V DC
PIR6WB-1PS-115VAC/DC-O	115 V AC/DC	1,0 VA / 1,0 W	PI6WB-1PS-115VAC/DC	RSR30-D24-D1-02-040-1	24 V DC
PIR6WB-1PS-230VAC/DC-O ⑥	230 V AC/DC	1,0 VA / 1,0 W	PI6WB-1PS-230VAC/DC	RSR30-D48-D1-02-040-1	48 V DC

The data in bold type pertain to the standard versions of the relays. ⑥ Version with gold-plated contacts. ④ Version for long control lines (max. 300 m), with anti-interference filter. ⑧ For versions 230VAC/DC and 230VAC/DC-10: the distance of min. 5 mm between the mounting relays. ⑦ 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).