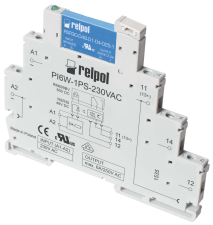
RM699BV + PI6W-1PS-...

RSR30 + PI6W-1PS-...



- Width 6,2 mm • Interface relay **PIR6W-1PS-...** consists of: screw terminals universal socket, with electronic **PI6W-1PS-...**, miniature operational relay - electromagnetic **RM699BV** or solid state **RSR30** ❶
- 35 mm rail mount acc. to EN 60715 • May be linked with 20-pole interconnection strip type **ZG20** • Equipped in LED green
- Accessories: description plates **PI6W-1246**
- Recognitions, certifications, directives: RoHS,

Output circuit (RM699BV) - contact data ❶

Number and type of contacts (code of output)		1 CO (R) ❸	1 CO (R01) ❸
Contact material		**$AgSnO_2$**	$AgSnO_2$/Au hard gold plating 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 1 mA 24 V
Max. make 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 • no load	AC1	 360 cycles/hour 72 000 cycles/hour	

Output circuit (RSR30) - output data ❶

Type of output (code of output)		Triac (T) ❸ max. 2 A	Transistor (C) ❸ max. 1 A	Transistor (O) ❸ 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
Switching voltage range		12...280 V AC	0...60 V DC	0...32 V DC
Rated continuous output current	AC1	1 A		
	DC1		1 A	2 A
Min. making capacity current		50 mA	1 mA	1 mA
Max. off-state leakage current (turn-off state)		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	50/60 Hz AC	230 V
	DC	6, 12, **24**, 36, 48, 60 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 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		AC: ≤ 0,8 U_n DC: ≤ 0,8 U_n DC: ≤ 0,85 U_n 6 V DC
Rated power consumption	AC	≤ 0,8 VA
	DC	0,2 ... 0,5 W
	AC/DC	0,5 ... 1,2 VA / 0,4 ... 1,2 W

The data in bold type relate to the standard versions of the relays. ❶ Characteristics of the capacity of relays **PIR6W-1PS-... with RM699BV**, **PIR6W-1PS-... with RSR30** - see 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 Type of outputs: **R** - contacts $AgSnO_2$; **R01** - contacts $AgSnO_2$/Au hard gold plating; **T** - triac; **C** - transistor; **O** - transistor.

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Insulation according to EN 60664-1

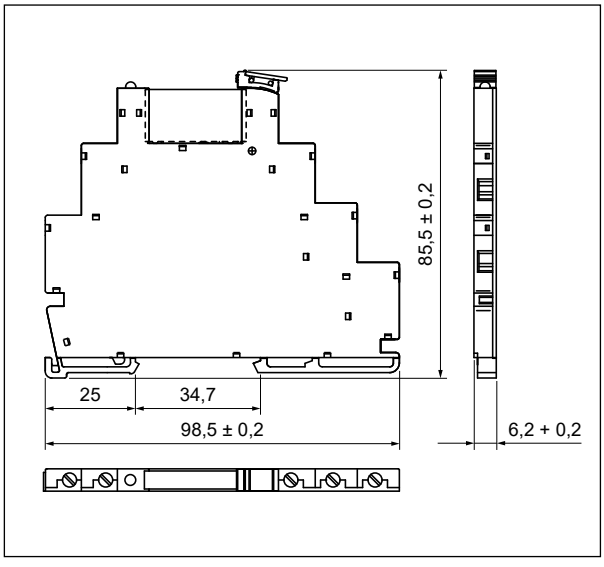
Insulation rated voltage	250 V AC
Rated surge voltage	4 000 V 1,2 / 50 µs
Overvoltage category	III
Insulation pollution degree	3
Dielectric strength	
• input - output	4 000 V AC 50/60 Hz, 1 min., type of insulation: reinforced
• input - output	6 000 V 1,2 / 50 µs
• mass - input, output	2 500 V AC 50/60 Hz, 1 min.
• contact clearance	1 000 V AC 50/60 Hz, 1 min., output R and R01, type of clearance: micro-disconnection
Input - output distance	
• clearance / creepage	≥ 6 mm / ≥ 8 mm
Mass - output distance	
• clearance / creepage	≥ 3 mm / ≥ 3,6 mm

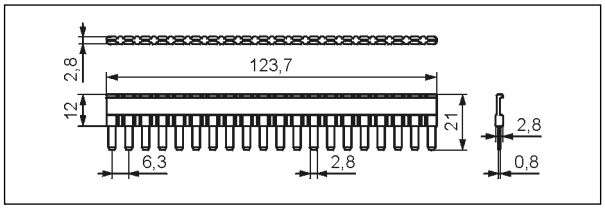
General data

Operating time (typical value)	PIR6W-1PS-...-R/-R01:	DC: 8 ms AC: 10 ms AC/DC: 20 ms
	PIR6W-1PS-...-T:	DC: 100 µs AC, AC/DC: 10 ms
	PIR6W-1PS-...-C/-O:	DC: 50 µs AC, AC/DC: 10 ms
Release time (typical value)	PIR6W-1PS-...-R/-R01:	DC: 10 ms AC: 20 ms AC/DC: 25 ms
	PIR6W-1PS-...-T:	DC: 1/2 cycle + 1 ms AC, AC/DC: 30 ms
	PIR6W-1PS-...-C/-O:	DC: 600 µs AC, AC/DC: 20 ms
Electrical life		
• resistive AC1	PIR6W-1PS-...-R:	> 0,5 x 10^5 6 A, 250 V AC
Mechanical life (cycles)	PIR6W-1PS-...-R/-R01:	> 10^7
Dimensions (L x W x H)		98,5 x 6,2 x 85,5 mm
Weight		45 g
Ambient temperature (non-condensation and/or icing) • storage	PIR6W-1PS-...-R/-R01/-T:	-40...+70 °C ...-C/-O: -25...+70 °C
• operating	PIR6W-1PS-...-R/-R01:	-40...+55 °C ...-T/-C/-O: -20...+55 °C
	PIR6W-1PS-230VAC/DC-R/-R01:	-40...+50 °C ❹ ...-C/-O: -20...+50 °C ❹
Cover protection category	IP 20	EN 60529
Environmental protection	RTI	EN 61810-1
Shock resistance	10 g	
Vibration resistance	5 g	10...500 Hz

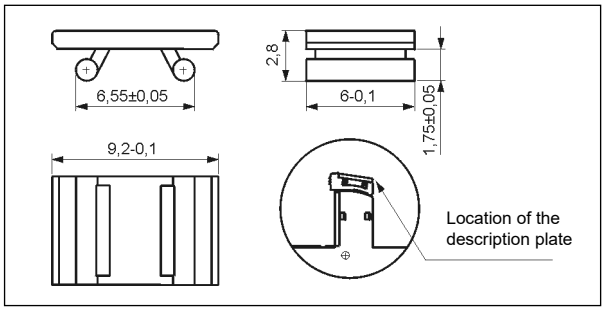
❹ For versions 230VAC/DC: the distance at least 5 mm between the relays mounted side by side.

Dimensions





20-pole interconnection strip type **ZG20**



Description plate **PI6W-1246**

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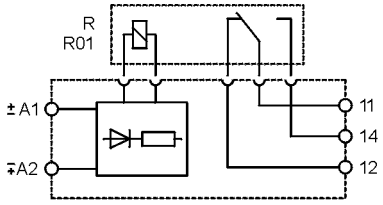
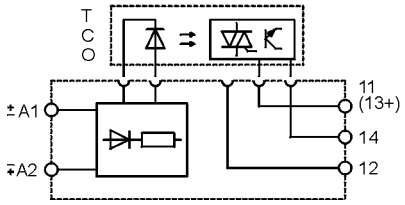
Connection diagrams

PIR6W-1PS-...-R, PIR6W-1PS-...-R01



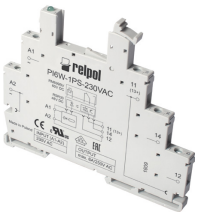
PIR6W-1PS-...-T, PIR6W-1PS-...-C, PIR6W-1PS-...-O



Mounting

Relays **PIR6W-1PS-...** ❹ 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-1PS-...** consists of: screw terminals universal socket, with electronic **PI6W-1PS-...**, miniature operational relay - electromagnetic **RM699BV** or solid state **RSR30** ❸.
PIR6W-1PS-... 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-1PS-...** relays; they are delivered with the relays, not mounted.

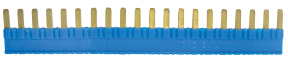
❸ Type of outputs: **R** - contacts $AgSnO_2$; **R01** - contacts $AgSnO_2$/Au hard gold plating; **T** - triac; **C** - transistor; **O** - transistor. ❹ For versions 230VAC/DC: the distance at least 5 mm between the relays mounted side by side.



PI6W-1PS-...

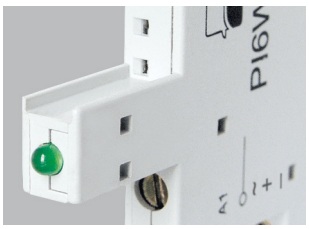
RM699BV

RSR30

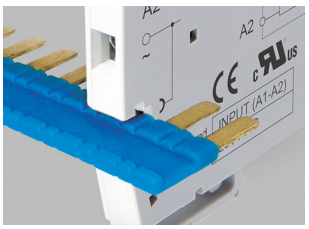


ZG20

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.

Ordering codes

Ordering codes **PIR6W-1PS-...** are specified in Table 1, ”Interface relay code” column.

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.

Table of codes Table 1

Interface relay code	Rated input voltage U_n ❺	Power of input circuit	Socket code	Operational relay code	Rated voltage of operational relay U_s ❺
PIR6W-1PS-6VDC-R	6 V DC	0,3 W	PI6W-1PS-6VDC	RM699BV-3011-85-1005	5 V DC
PIR6W-1PS-12VDC-R	12 V DC	0,2 W	PI6W-1PS-12/24VDC	RM699BV-3011-85-1012	12 V DC
PIR6W-1PS-24VDC-R	**24 V DC**	**0,3 W**	**PI6W-1PS-12/24VDC**	**RM699BV-3011-85-1024**	**24 V DC**
PIR6W-1PS-36VDC-R	36 V DC	0,3 W	PI6W-1PS-36VDC	RM699BV-3011-85-1024	24 V DC
PIR6W-1PS-48VDC-R	48 V DC	0,4 W	PI6W-1PS-48VDC	RM699BV-3011-85-1024	24 V DC
PIR6W-1PS-60VDC-R	60 V DC	0,5 W	PI6W-1PS-60VDC	RM699BV-3011-85-1024	24 V DC
PIR6W-1PS-24VAC/DC-R	**24 V AC/DC**	**0,5 VA / 0,4 W**	**PI6W-1PS-24VAC/DC**	**RM699BV-3011-85-1012**	**12 V DC**
PIR6W-1PS-42VAC/DC-R	42 V AC/DC	0,5 VA / 0,4 W	PI6W-1PS-42VAC/DC	RM699BV-3011-85-1024	24 V DC
PIR6W-1PS-115VAC/DC-R	115 V AC/DC	1,2 VA / 1,2 W	PI6W-1PS-115VAC/DC	RM699BV-3011-85-1024	24 V DC
PIR6W-1PS-230VAC/DC-R ❹	**230 V AC/DC**	**1,2 VA / 1,2 W**	**PI6W-1PS-230VAC/DC**	**RM699BV-3011-85-1060**	**60 V DC**
PIR6W-1PS-230VAC-R	230 V AC	≤ 0,8 VA	PI6W-1PS-230VAC	RM699BV-3011-85-1060	60 V DC
PIR6W-1PS-6VDC-R01 ❷	6 V DC	0,3 W	PI6W-1PS-6VDC	RM699BV-3211-85-1005	5 V DC
PIR6W-1PS-12VDC-R01 ❷	12 V DC	0,2 W	PI6W-1PS-12/24VDC	RM699BV-3211-85-1012	12 V DC
PIR6W-1PS-24VDC-R01 ❷	**24 V DC**	**0,3 W**	**PI6W-1PS-12/24VDC**	**RM699BV-3211-85-1024**	**24 V DC**
PIR6W-1PS-36VDC-R01 ❷	36 V DC	0,3 W	PI6W-1PS-36VDC	RM699BV-3211-85-1024	24 V DC
PIR6W-1PS-48VDC-R01 ❷	48 V DC	0,4 W	PI6W-1PS-48VDC	RM699BV-3211-85-1024	24 V DC
PIR6W-1PS-60VDC-R01 ❷	60 V DC	0,5 W	PI6W-1PS-60VDC	RM699BV-3211-85-1024	24 V DC
PIR6W-1PS-24VAC/DC-R01 ❷	**24 V AC/DC**	**0,5 VA / 0,4 W**	**PI6W-1PS-24VAC/DC**	**RM699BV-3211-85-1012**	**12 V DC**
PIR6W-1PS-42VAC/DC-R01 ❷	42 V AC/DC	0,5 VA / 0,4 W	PI6W-1PS-42VAC/DC	RM699BV-3211-85-1024	24 V DC
PIR6W-1PS-115VAC/DC-R01 ❷	115 V AC/DC	1,2 VA / 1,2 W	PI6W-1PS-115VAC/DC	RM699BV-3211-85-1024	24 V DC
PIR6W-1PS-230VAC/DC-R01 ❷ ❹	**230 V AC/DC**	**1,2 VA / 1,2 W**	**PI6W-1PS-230VAC/DC**	**RM699BV-3211-85-1060**	**60 V DC**
PIR6W-1PS-230VAC-R01 ❷	230 V AC	≤ 0,8 VA	PI6W-1PS-230VAC	RM699BV-3211-85-1060	60 V DC
PIR6W-1PS-6VDC-T	6 V DC	0,2 W	PI6W-1PS-6VDC	RSR30-D05-A1-24-020-1	5 V DC
PIR6W-1PS-12VDC-T	12 V DC	0,2 W	PI6W-1PS-12/24VDC	RSR30-D12-A1-24-020-1	12 V DC
PIR6W-1PS-24VDC-T	**24 V DC**	**0,3 W**	**PI6W-1PS-12/24VDC**	**RSR30-D24-A1-24-020-1**	**24 V DC**
PIR6W-1PS-36VDC-T	36 V DC	0,3 W	PI6W-1PS-36VDC	RSR30-D24-A1-24-020-1	24 V DC
PIR6W-1PS-48VDC-T	48 V DC	0,4 W	PI6W-1PS-48VDC	RSR30-D24-A1-24-020-1	24 V DC
PIR6W-1PS-60VDC-T	60 V DC	0,5 W	PI6W-1PS-60VDC	RSR30-D24-A1-24-020-1	24 V DC
PIR6W-1PS-24VAC/DC-T	**24 V AC/DC**	**0,5 VA / 0,4 W**	**PI6W-1PS-24VAC/DC**	**RSR30-D12-A1-24-020-1**	**12 V DC**
PIR6W-1PS-42VAC/DC-T	42 V AC/DC	0,5 VA / 0,4 W	PI6W-1PS-42VAC/DC	RSR30-D24-A1-24-020-1	24 V DC
PIR6W-1PS-115VAC/DC-T	115 V AC/DC	1,0 VA / 1,0 W	PI6W-1PS-115VAC/DC	RSR30-D24-A1-24-020-1	24 V DC
PIR6W-1PS-6VDC-C	6 V DC	0,2 W	PI6W-1PS-6VDC	RSR30-D05-D1-04-025-1	5 V DC
PIR6W-1PS-12VDC-C	12 V DC	0,2 W	PI6W-1PS-12/24VDC	RSR30-D12-D1-04-025-1	12 V DC
PIR6W-1PS-24VDC-C	**24 V DC**	**0,3 W**	**PI6W-1PS-12/24VDC**	**RSR30-D24-D1-04-025-1**	**24 V DC**
PIR6W-1PS-36VDC-C	36 V DC	0,3 W	PI6W-1PS-36VDC	RSR30-D24-D1-04-025-1	24 V DC
PIR6W-1PS-48VDC-C	48 V DC	0,4 W	PI6W-1PS-48VDC	RSR30-D24-D1-04-025-1	24 V DC
PIR6W-1PS-60VDC-C	60 V DC	0,5 W	PI6W-1PS-60VDC	RSR30-D24-D1-04-025-1	24 V DC
PIR6W-1PS-24VAC/DC-C	**24 V AC/DC**	**0,5 VA / 0,4 W**	**PI6W-1PS-24VAC/DC**	**RSR30-D12-D1-04-025-1**	**12 V DC**
PIR6W-1PS-42VAC/DC-C	42 V AC/DC	0,5 VA / 0,4 W	PI6W-1PS-42VAC/DC	RSR30-D24-D1-04-025-1	24 V DC
PIR6W-1PS-115VAC/DC-C	115 V AC/DC	1,0 VA / 1,0 W	PI6W-1PS-115VAC/DC	RSR30-D24-D1-04-025-1	24 V DC
PIR6W-1PS-230VAC/DC-C ❹	**230 V AC/DC**	**1,0 VA / 1,0 W**	**PI6W-1PS-230VAC/DC**	**RSR30-D48-D1-04-025-1**	**48 V DC**
PIR6W-1PS-230VAC-C	230 V AC	≤ 0,8 VA	PI6W-1PS-230VAC	RSR30-D48-D1-04-025-1	48 V DC
PIR6W-1PS-6VDC-O	6 V DC	0,2 W	PI6W-1PS-6VDC	RSR30-D05-D1-02-040-1	5 V DC
PIR6W-1PS-12VDC-O	12 V DC	0,2 W	PI6W-1PS-12/24VDC	RSR30-D12-D1-02-040-1	12 V DC
PIR6W-1PS-24VDC-O	**24 V DC**	**0,3 W**	**PI6W-1PS-12/24VDC**	**RSR30-D24-D1-02-040-1**	**24 V DC**
PIR6W-1PS-36VDC-O	36 V DC	0,3 W	PI6W-1PS-36VDC	RSR30-D24-D1-02-040-1	24 V DC
PIR6W-1PS-48VDC-O	48 V DC	0,4 W	PI6W-1PS-48VDC	RSR30-D24-D1-02-040-1	24 V DC
PIR6W-1PS-60VDC-O	60 V DC	0,5 W	PI6W-1PS-60VDC	RSR30-D24-D1-02-040-1	24 V DC
PIR6W-1PS-24VAC/DC-O	**24 V AC/DC**	**0,5 VA / 0,4 W**	**PI6W-1PS-24VAC/DC**	**RSR30-D12-D1-02-040-1**	**12 V DC**
PIR6W-1PS-42VAC/DC-O	42 V AC/DC	0,5 VA / 0,4 W	PI6W-1PS-42VAC/DC	RSR30-D24-D1-02-040-1	24 V DC
PIR6W-1PS-115VAC/DC-O	115 V AC/DC	1,0 VA / 1,0 W	PI6W-1PS-115VAC/DC	RSR30-D24-D1-02-040-1	24 V DC
PIR6W-1PS-230VAC/DC-O ❹	**230 V AC/DC**	**1,0 VA / 1,0 W**	**PI6W-1PS-230VAC/DC**	**RSR30-D48-D1-02-040-1**	**48 V DC**
PIR6W-1PS-230VAC-O	230 V AC	≤ 0,8 VA	PI6W-1PS-230VAC	RSR30-D48-D1-02-040-1	48 V DC

The data in bold type relate to the standard versions of the relays. ❷ Version with gold-plated contacts. ❹ For versions 230VAC/DC: the distance at least 5 mm between the relays mounted side by side. ❺ 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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