

# PIR4T with socket GZT4-V0 relays for railroad industry - interface

## R4T + GZT4-V0



- 35 mm rail mount acc. to EN 60715 or on panel mounting with two M3 screws
- Compliance with standards: EN 45545-2 (category EL10, requirement R26 - flammability class V-0 acc. to EN 60695-11-10); EN 61373 category 1, class B (mechanical shock and vibration resistance); EN 50155; EN 60077-1; EN 61810-1
- Recognitions, certifications, directives: recognitions R4T, RoHS,



### Contact data

Number and type of contacts		4 CO
Contact material		<b>AgNi</b>
Rated / max. switching voltage	AC	250 V / 300 V
Min. switching voltage		5 V
Rated load (capacity)	AC1	7 A / 230 V AC (VDE)      6 A / 250 V AC
	AC15	1,5 A / 120 V      0,75 A / 240 V (C300)
	DC1	6 A / 24 V DC (see Fig. 3)
	DC13	0,22 A / 120 V      0,1 A / 250 V (R300)
Motor load	acc. to UL 508	1/3 HP      240 V AC, 3,6 FLA, single-phase motor ①
	AC3 acc. to IEC 60947-4-1	0,125 kW      240 V AC, single-phase motor
Min. switching current		5 mA
Max. inrush current		12 A
Rated current		6 A
Max. breaking capacity	AC1	1 500 VA
Min. breaking capacity		0,3 W
Contact resistance		≤ 100 mΩ      100 mA, 24 V
Max. operating frequency		
• at rated load	AC1	1 200 cycles/hour
• no load		18 000 cycles/hour

### Coil data

Rated voltage	DC	<b>24, 110 V ②</b>
Must release voltage		≥ 0,1 U <sub>n</sub>
Operating range of supply voltage		0,7...1,25 U <sub>n</sub> EN 50155      see Table 1
Must operate voltage		≤ 0,7 U <sub>n</sub>
Rated power consumption	DC	0,9 W

### Insulation according to EN 60664-1

Insulation rated voltage		300 V AC
Rated surge voltage		2 500 V      1,2 / 50 μs
Overtoltage category		II
Insulation pollution degree		2
Flammability class		V-0      UL 94, EN 60695-11-10
Dielectric strength		
• between coil and contacts		2 500 V AC      type of insulation: basic
• contact clearance		1 500 V AC      type of clearance: micro-disconnection
• pole - pole		2 000 V AC      type of insulation: basic
Contact - coil distance		
• clearance		≥ 1,6 mm
• creepage		≥ 3,2 mm

### General data

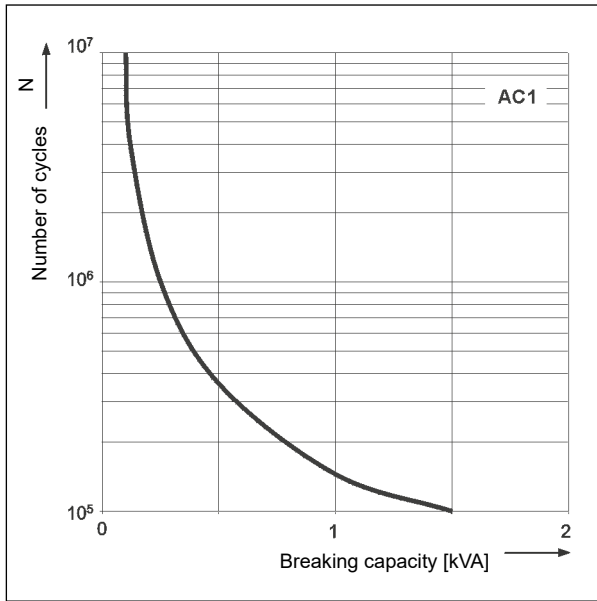
Operating / release time (typical values)		13 ms / 3 ms
Electrical life		
• resistive AC1		> 5 x 10 <sup>4</sup> 7 A, 230 V AC
		> 10 <sup>5</sup> 6 A, 250 V AC
• cosφ		see Fig. 2
Mechanical life (cycles)		> 2 x 10 <sup>7</sup>
Dimensions (L x W x H)		76,3 x 27 x 65 mm
Weight		94 g
Ambient temperature	• storage	-40...+85 °C
(non-condensation and/or icing)	• operating	-40...+55 °C
Cover protection category		IP 20      EN 60529
Environmental protection		R4T: RTI      GZT4-V0: RT0      EN 61810-7
Shock / vibration resistance		category 1, class B EN 61373 (set: relay in socket with clip and module)

The data in bold type relate to the standard versions of the relays. ① For single phase motors for 110-120 V AC do not use motors with higher FLA than given for 240 V AC. ② For other voltages, please contact Relpol S.A.

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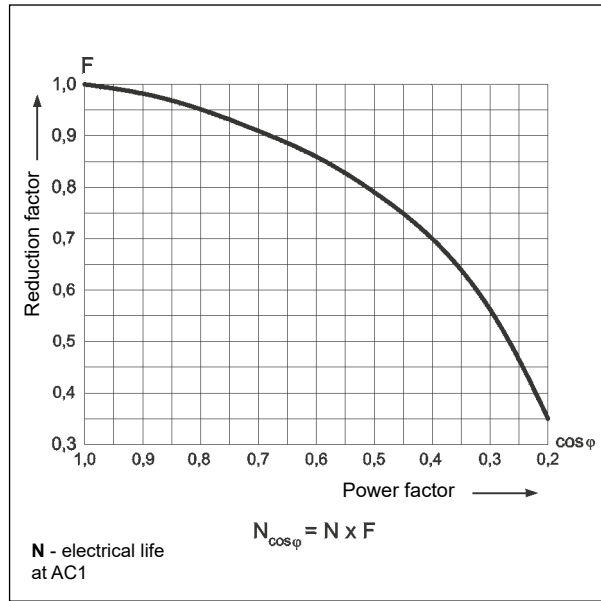
**Electrical life at AC resistive load.**  
Switching frequency: 1 200 cycles/hour

Fig. 1



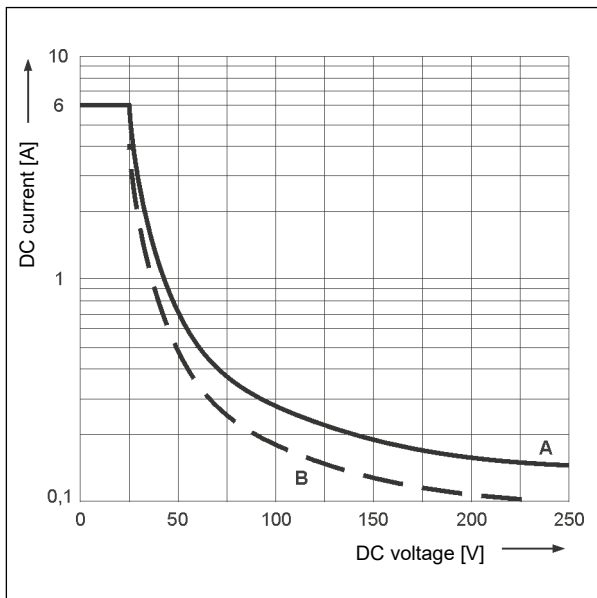
**Electrical life reduction factor at AC inductive load**

Fig. 2

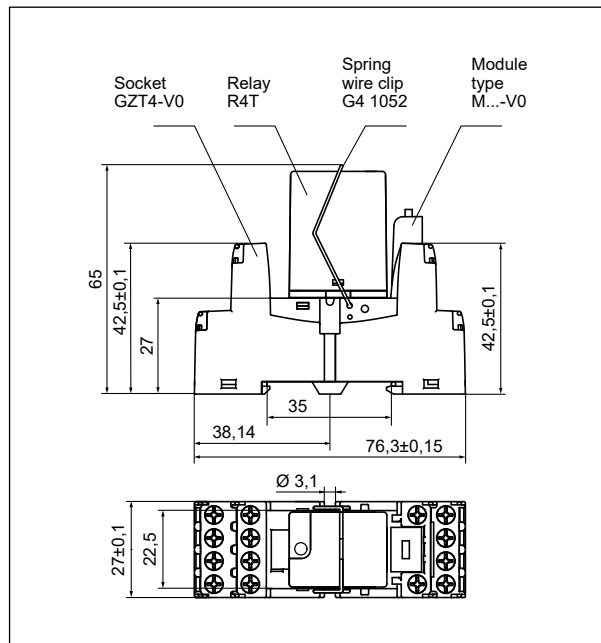


**Max. DC breaking capacity**  
A - resistive load DC1  
B - inductive load L/R = 40 ms

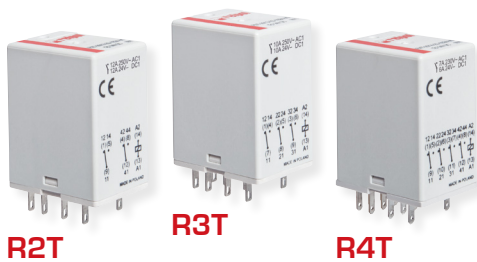
Fig. 3



## Dimensions

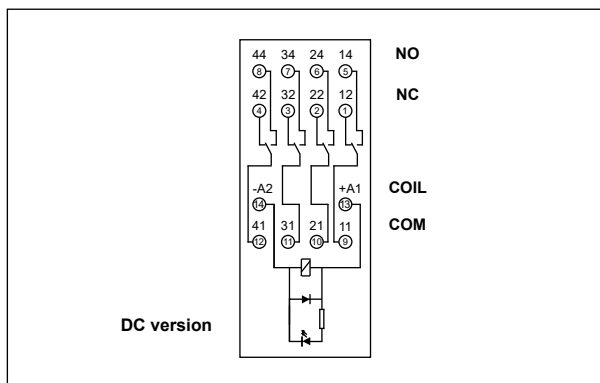


Relays for  
railroad industry  
- industrial



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## Connection diagram (screw terminals side view)



## Mounting

Relays **PIR4T with socket GZT4-V0** are designed for direct mounting on 35 mm rail mount acc. to EN 60715 or on panel mounting with two M3 screws. **Connections:** max. cross section of the cables (stranded): 2 x 2,5 mm<sup>2</sup> (2 x 14 AWG), stripping length: 6,5 mm, max. tightening moment for the terminal: 0,7 Nm.

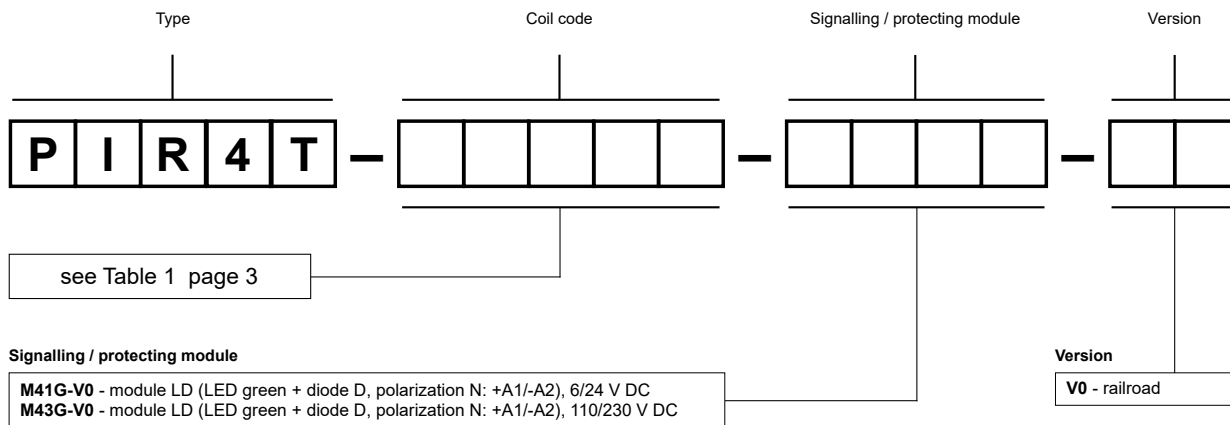
## Coil data - DC voltage version

Table 1

Coil code	Rated voltage V DC ②	Coil resistance at 20 °C Ω	Acceptable resistance	Coil operating range V DC according to EN 50155 ③	
				min.	max.
<b>024DC</b>	<b>24</b>	<b>640</b>	<b>± 10%</b>	<b>16,8</b>	<b>30,0</b>
110DC	110	13 600	± 10%	77,0	137,5

The data in bold type relate to the standard versions of the relays. ② For other voltages, please contact Relpol S.A. ③ Changes of voltage within the range 0,6...1,4 Un below 0,1 s and changes of voltage within the range 1,25...1,4 Un below 1 s are admissible and they do not distort operation of the relays.

## Ordering codes



Examples of ordering codes:

### PIR4T-024DC-M41G-V0

interface relay **PIR4T** (railroad version) consists of: relay **R4T** (four changeover contacts, contact material AgNi, coil voltage 24 V DC), socket **GZT4-V0** (grey, screw terminals), signalling / protecting module **M41G-V0** (version LD), spring wire clip **G4 1052**

### PIR4T-110DC-M43G-V0

interface relay **PIR4T** (railroad version) consists of: relay **R4T** (four changeover contacts, contact material AgNi, coil voltage 110 V DC), socket **GZT4-V0** (grey, screw terminals), signalling / protecting module **M43G-V0** (version LD), spring wire clip **G4 1052**

## 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.