

# PIR152T, PIR153T with socket PZ...V0

## railroad interface relays



- 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 as per EN 60695-11-10); EN 61373:2011 category 1, class B (mechanical shock and vibration resistance); EN 50155:2007; EN 60077-1; EN 61810-1
- Recognitions, certifications, directives: recognitions R15T, RoHS, **CE ENEC CTK**

### Contact data

|   |   |  |   |
|---|---|--|---|
| Number and type of contacts               | 2 CO, 3 CO                                  |  |   |
| Contact material                          | <b>AgNi</b>                                 |  |   |
| Rated switching voltage                   | AC  | 250 V  |   |
| Min. switching voltage                    |   | 10 V   |   |
| Rated load (capacity)                     | AC1   | 10 A / 250 V AC  | 10 A / 277 V AC UL 508                            |
|   | AC15  | 3 A / 120 V  | 1,5 A / 240 V (B300)                              |
|   | DC1   | 10 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                              | 1/2 HP   | 240 V AC, 4,9 FLA, single-phase motor ❶           |
|   | AC3 acc. to IEC 60947-4-1                   | 0,37 kW  | 240 V AC, single-phase motor                      |
| Min. switching current                    |   | 5 mA   |   |
| Max. inrush current                       |   | 20 A   |   |
| Rated current                             |   | 10 A   |   |
| Max. breaking capacity                    | AC1   | 2 500 VA   |   |
| Min. breaking capacity                    |   | 0,3 W  |   |
| Contact resistance                        |   | ≤ 100 mΩ   |   |
| Max. operating frequency                  | AC1   | • at rated load  |   |
|   |   | • no load  |   |
|   |   | 1 200 cycles/hour  | 12 000 cycles/hour                                |
| <b>Coil data</b>                          |   |  |   |
| Rated voltage                             | DC  | <b>24, 110 V ❷</b>   |   |
| Must release voltage                      |   | ≥ 0,1 U <sub>n</sub>   |   |
| Operating range of supply voltage         |   | 0,7...1,25 U <sub>n</sub> EN 50155:2007                            | see Table 1                                       |
| Must operate voltage                      |   | ≤ 0,7 U <sub>n</sub>   |   |
| Rated power consumption                   | DC  | 1,7 W reinforced version   |   |
| <b>Insulation according to EN 60664-1</b> |   |  |   |
| Insulation rated voltage                  |   | 250 V AC   |   |
| Rated surge voltage                       |   | 2 500 V 1,2 / 50 μs  |   |
| Overvoltage category                      |   | III  |   |
| Insulation pollution degree               |   | 3  |   |
| 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                                 |  | ≥ 3 mm  |
|   | • creepage                                  |  | ≥ 4,2 mm  |
| <b>General data</b>                       |   |  |   |
| Operating / release time (typical values) |   | 18 ms / 7 ms   |   |
| Electrical life                           | • resistive AC1                             |  | > 2 x 10 <sup>5</sup> 10 A, 250 V AC              |
|   | • cosφ                                      |  | see Fig. 2  |
| Mechanical life (cycles)                  |   | > 2 x 10 <sup>7</sup>  |   |
| Dimensions (L x W x H)                    |   | 68,2 x 38 x 82 mm  |   |
| Weight                                    |   | PIR152T: 150 g   | PIR153T: 159 g                                    |
| Ambient temperature                       | • storage                                   |  | -40...+85 °C                                      |
|   | • operating (non-condensation and/or icing) |  | -40...+55 °C                                      |
| Cover protection category                 |   | IP 20 EN 60529   |   |
| Environmental protection                  |   | R15T: RTI PZ8-V0, PZ11-V0: RT0                                     | EN 61810-7  |
| Shock / vibration resistance              |   | category 1, class B EN 61373:2011 (set: relay in socket with clip) |   |

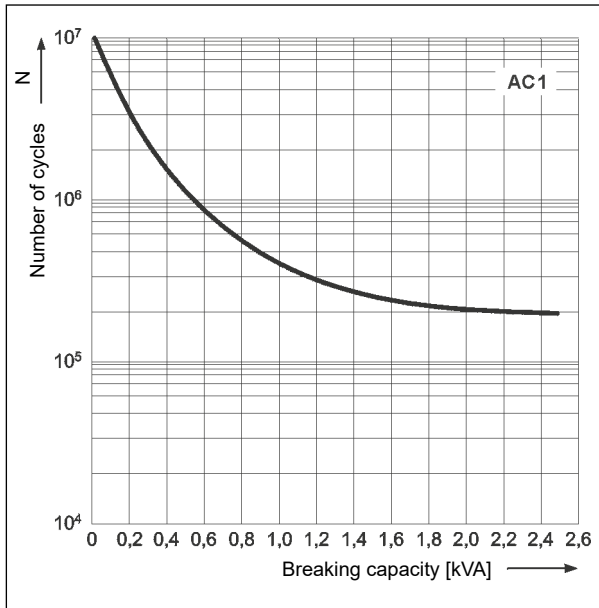
The data in bold type relate to the standard versions of the relays. ❶ For single phase motors for 110-120 V AC do not use motors with higher FLA than given for 240 V AC. ❷ For other voltages contact Relpol S.A., please.

# PIR152T, PIR153T with socket PZ..-V0

## railroad interface relays

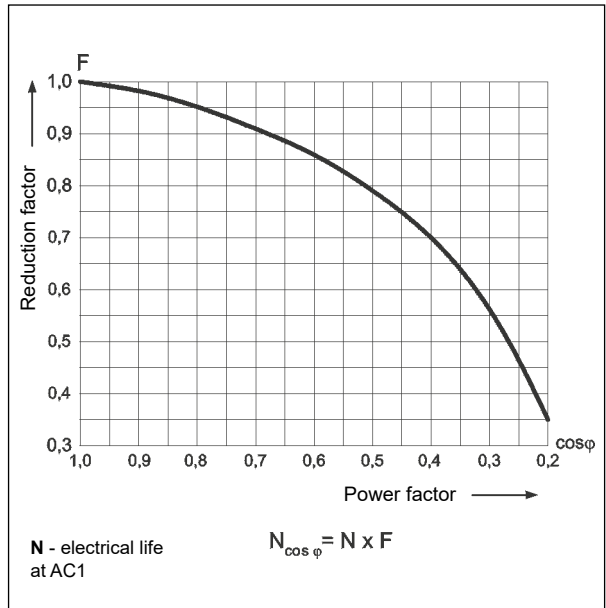
**Electrical life at AC resistive load.**  
Switching frequency: 1 200 cycles/hour

Fig. 1



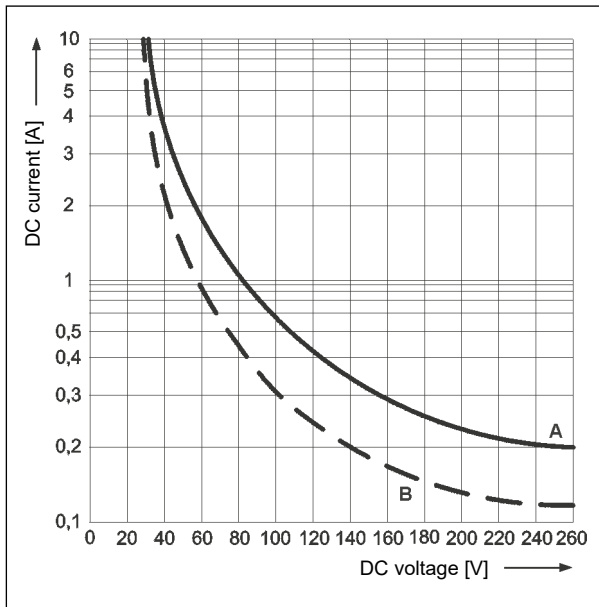
**Electrical life reduction factor at AC inductive load**

Fig. 2

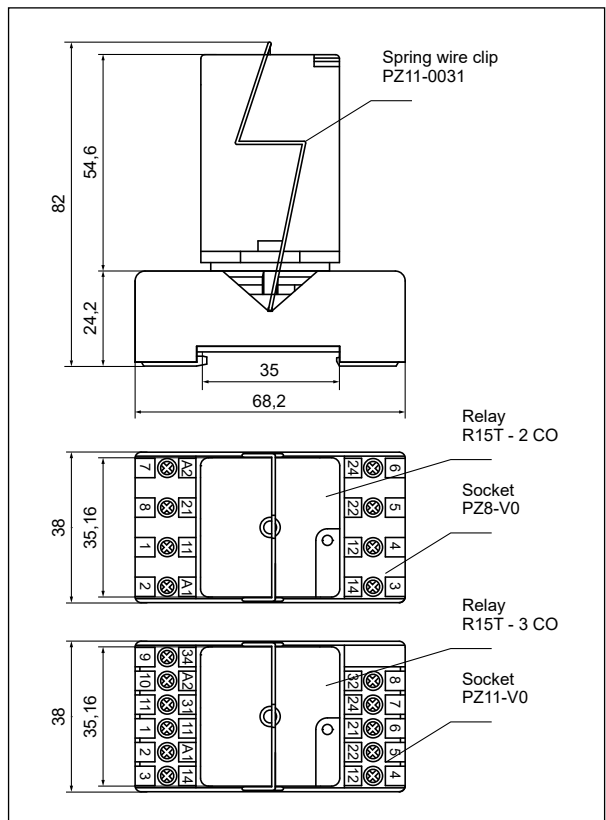


**Max. DC breaking capacity**  
A - resistive load DC1  
B - inductive load L/R = 40 ms

Fig. 3



### Dimensions



### R15T - 2 CO, 3 CO

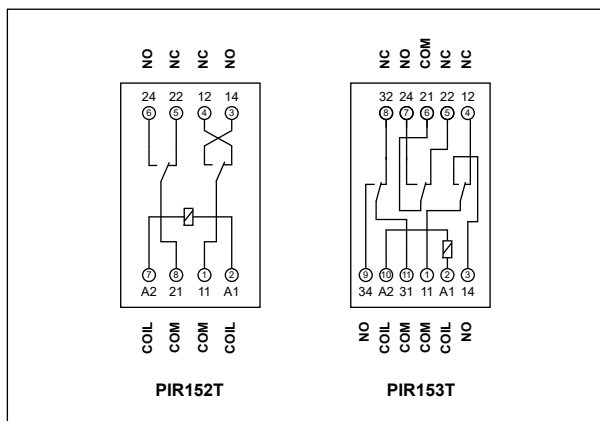
Railroad industrial relays



# PIR152T, PIR153T with socket PZ..-V0

## railroad interface relays

### Connection diagrams (screw terminals side view)



### Mounting

Relays **PIR152T with socket PZ8-V0**, **PIR153T with socket PZ11-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: 7 mm, max. tightening moment for the terminal: 0,7 Nm.

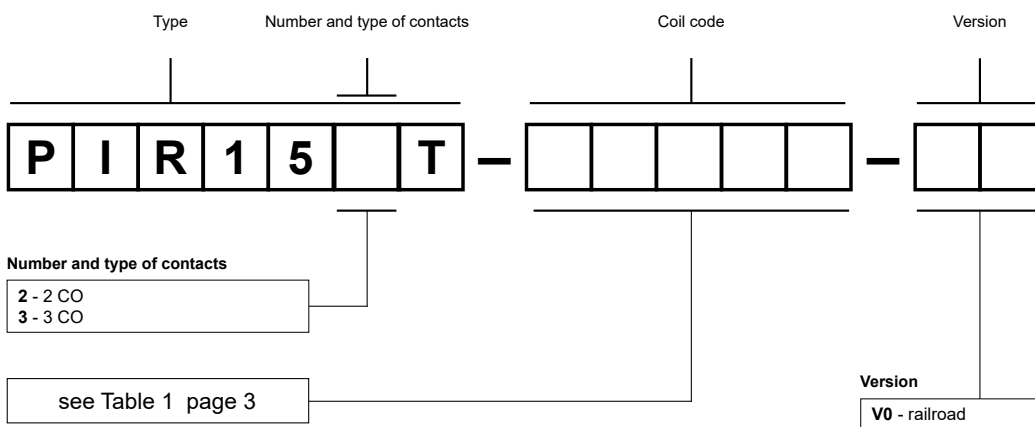
### Coil data - DC voltage version

Table 1

| Coil code    | Rated voltage<br>V DC ② | Coil resistance<br>at 20 °C<br>Ω | Acceptable<br>resistance | Coil operating range V DC<br>according to EN 50155:2007 ③ |             |
|--------------|-------------------------|----------------------------------|--------------------------|---|-------------|
|              |                         |                                  |                          | min.  | max.        |
| <b>024DC</b> | <b>24</b>               | <b>345</b>                       | <b>± 10%</b>             | <b>16,8</b>   | <b>30,0</b> |
| 110DC        | 110                     | 7 300                            | ± 10%                    | 77,0  | 137,5       |

The data in bold type relate to the standard versions of the relays. ② For other voltages contact Relpol S.A., please. 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:

#### PIR152T-024DC-V0

interface relay **PIR152T** (railroad version) consists of: relay **R15T - 2 CO** (two change-over contacts, contact material AgNi, reinforced coil voltage 24 V DC), socket **PZ8-V0** (grey, screw terminals), spring wire clip **PZ11-0031**

#### PIR153T-110DC-V0

interface relay **PIR153T** (railroad version) consists of: relay **R15T - 3 CO** (three change-over contacts, contact material AgNi, reinforced coil voltage 110 V DC), socket **PZ11-V0** (grey, screw terminals), spring wire clip **PZ11-0031**

### 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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