

# R4T

## relays for railroad industry - industrial



7 A / 230 V AC

- Relays designed for continuous operation\*
- For plug-in sockets: on 35 mm rail mount acc. to EN 60715 or on panel mounting • DC coils, insulation class F: 155 °C
- 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: RoHS, **CE ENEC IKT**

### Contact data

Number and type of contacts		4 CO
Contact material		<b>AgNi</b>
Rated / max. switching voltage	AC	250 V / 440 V
Min. switching voltage		10 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 ②
	AC3 acc. to IEC 60947-4-1	0,125 kW 240 V AC, single-phase motor
Min. switching current		5 mA
Max. make current		12 A
Rated current		7 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 ③</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		250 V AC
Rated surge voltage		2 500 V 1,2 / 50 μs
Overvoltage category		II
Insulation pollution degree		2
Flammability class		V-0 UL 94, PN-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

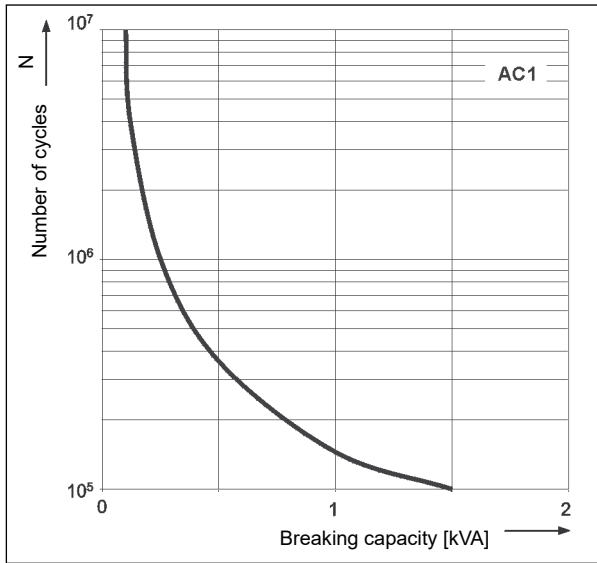
### General data

Operating / release time (typical values)		13 ms / 3 ms
Electrical life		
• resistive AC1		> 5 x 10 <sup>4</sup> 7 A, 230 V AC (duty factor 50%)
		> 10 <sup>5</sup> 6 A, 250 V AC (duty factor 50%)
• cosφ		see Fig. 2
Mechanical life (cycles)		> 2 x 10 <sup>7</sup>
Dimensions (L x W x H)		27,4 x 21 x 35,5 mm
Weight		35 g
Ambient temperature	• storage	-40...+85 °C
(non-condensation and/or icing)	• operating	-40...+70 °C
Cover protection category		IP 40 IP 20 (with socket GZT4-V0) EN 60529
Environmental protection		RTI EN 61810-1
Shock resistance	(NO/NC)	10 g / 5 g category 1, class B EN 61373
Vibration resistance		5 g 10...150 Hz category 1, class B EN 61373

The data in bold type relate to the standard versions of the relays. \*The relays are designed for continuous operation while maintaining the parameters declared in the data sheet. ① Certification IK for interface set PIR4T (R4T with socket GZT4-V0). ② For single phase motors for 110-120 V AC do not use motors with higher FLA than given for 240 V AC. ③ For other voltages, please contact Relpol S.A.

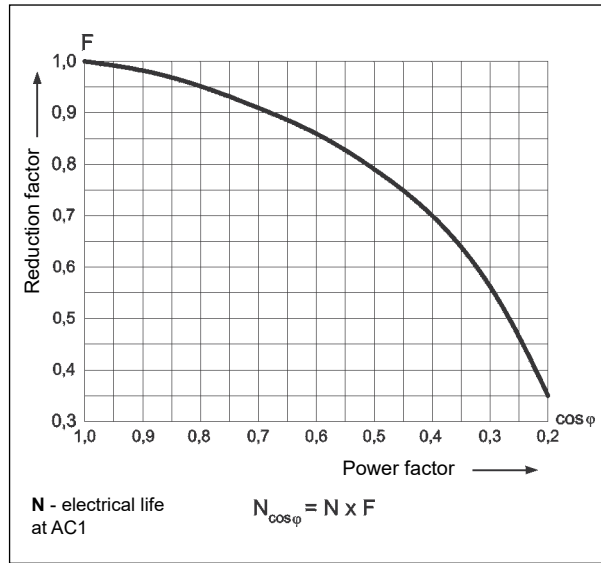
**Electrical life at AC resistive load.**  
Switching frequency: 1 200 cycles/hour

Fig. 1



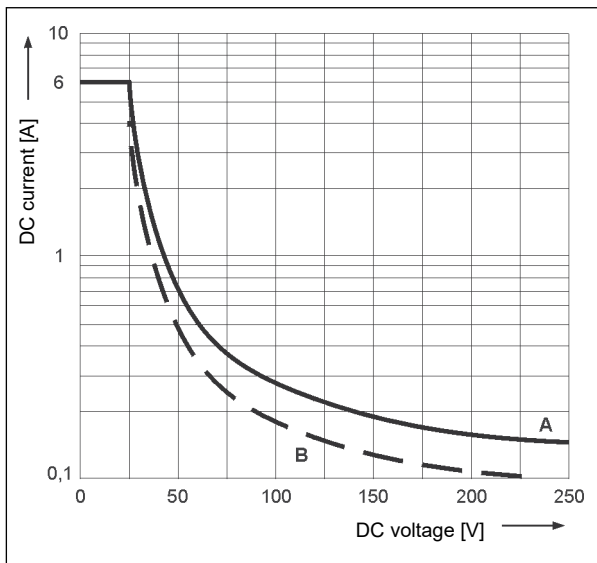
**Electrical life reduction factor at AC inductive load**

Fig. 2

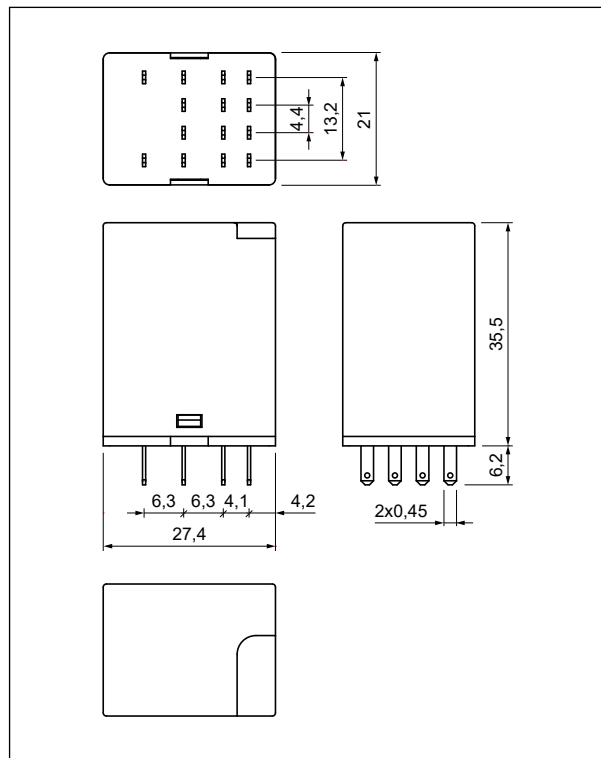


**Max. DC breaking capacity**  
A - resistive load DC1  
B - inductive load L/R = 40 ms

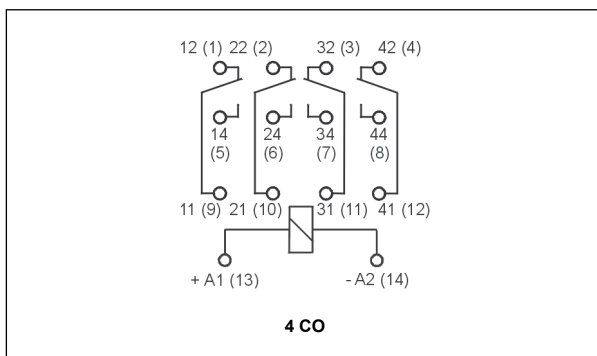
Fig. 3



**Dimensions**

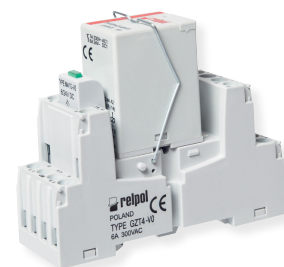


**Connection diagram (pin side view)**



**PIR4T**

Relays for railroad industry  
- interface,  
contacts 4 CO



## Mounting, sockets and accessories for relays

Relays **R4T** are designed for mounting in plug-in sockets.

Sockets for R4T	Accessories		Additional equipment
	Spring wire clips	Description plates	
<b>Screw terminals sockets</b> , 35 mm rail mount (acc. to EN 60715) or on panel mounting (two M3 screws)			
GZT4-V0	G4 1052	GZT4-0035	M...-V0 ④

④ Signalling / protecting modules type M...-V0 - see page 4.

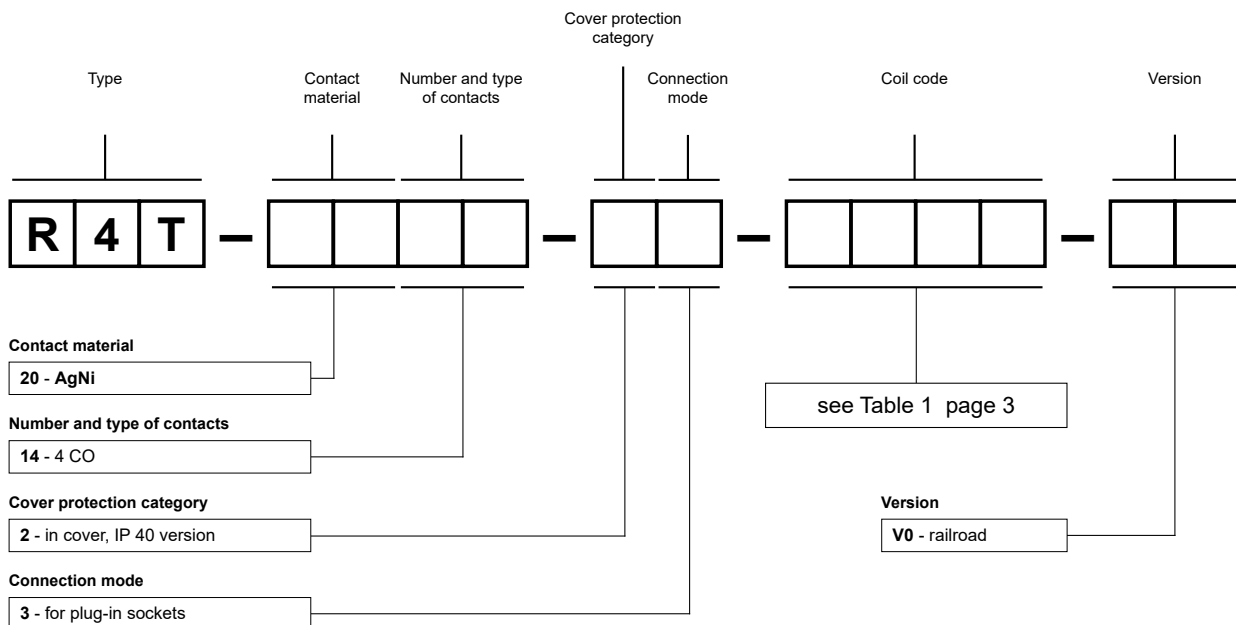
## Coil data - DC voltage version

Table 1

Coil code	Rated voltage V DC ③	Coil resistance at 20 °C Ω	Acceptable resistance	Coil operating range V DC EN 50155 ⑤	
				min.	max.
<b>1024</b>	<b>24</b>	<b>640</b>	<b>± 10%</b>	<b>16,8</b>	<b>30,0</b>
1110	110	13 600	± 10%	77,0	137,5

The data in bold type relate to the standard versions of the relays. ③ For other voltages, please contact Relpol S.A. ⑤ 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



Example of ordering codes:

**R4T-2014-23-1110-V0**

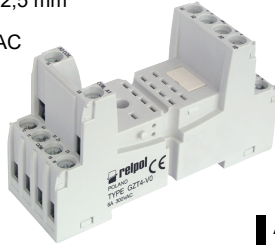
relay **R4T** (railroad version), for plug-in sockets, four changeover contacts, contact material AgNi, coil voltage 110 V DC, in cover IP 40

# Sockets and accessories

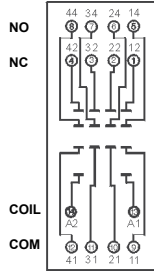
## GZT4-V0

For R4T

Screw terminals  
 Max. tightening moment  
 for the terminal: 0,7 Nm  
 35 mm rail mount  
 acc. to EN 60715  
 or on panel mounting  
 76,3 x 27 x 42,5 mm  
 Four poles  
 12 A, 300 V AC



### Connection diagram



G4 1052

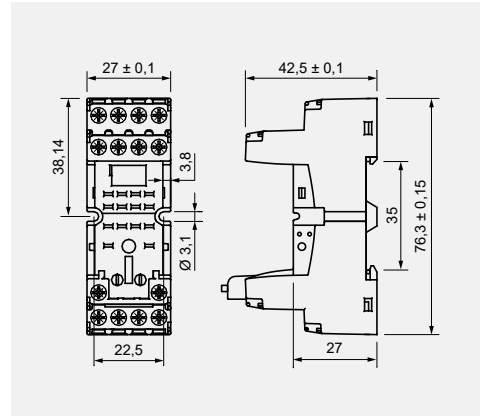


GZT4-0035



Module type M...-V0

### Dimensions

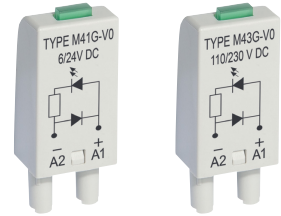


### Accessories

## Signalling / protecting modules type M...-V0

For sockets type: GZT2-V0, GZT3-V0, GZT4-V0

Modules type M...-V0 are parallelly connected with relay coil.  
 Polarization N: +A1/-A2.



Modules type M...	Layout	Voltage	Type of module
<b>Module LD (polarization N)</b> It limits overvoltage on DC coils. Coil energizing indication.		6/24 V DC 110/230 V DC	M41G-V0 M43G-V0

### 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.