

**12 A / 250 V AC**

- WT - standard plug-in version with indicating flag and manual testing/latching lever
- Miniature size, cadmium - free contacts available, coil AC and DC
- Plug-in version - 35 mm DIN rail mount, EN 50022 or on panel mounting
- For PCB and soldering connections - option
- General purpose relays
- Relays may be provided with the P type test buttons as well as plugs instead for T type buttons - page 167

**Contacts**

Contact number & arrangement	2C/O	
Contact material	AgNi, AgNi/Au 0,2 µm, AgNi/Au 5 µm	
Max. switching voltage	AC/DC	250 V / 250 V
Min. switching voltage	5 V	
Rated load	AC1	12 A / 250 V AC ① 10 A / 250 V AC ②
	DC1	12 A / 24 V DC ① 10 A / 24 V DC ②
Min. switching current	5 mA AgNi, 5 mA AgNi/Au 0,2 µm, 2 mA AgNi/Au 5 µm	
Max. inrush current	24 A	
Rated current	12 A ① 10 A ②	
Max. breaking capacity	AC1	3 000 VA ① 2 500 VA ②
Min. breaking capacity	0,3 W AgNi, 0,3 W AgNi/Au 0,2 µm, 0,1 W AgNi/Au 5 µm	
Resistance	≤ 100 mΩ	
Max. operating frequency	AC1	• at rated load 1 200 cycles/hour
		• no load 18 000 cycles/hour

**Coil**

Rated voltage	50/60 Hz AC	6...240 V
	DC	5...220 V
Must release voltage	AC: ≥ 0,2 U <sub>n</sub> DC: ≥ 0,1 U <sub>n</sub>	
Operating range of supply voltage	see Table 1, 2	
Rated power consumption	AC	1,6 VA
	DC	0,9 W

**Insulation**

Insulation category	C250
Insulation rated voltage	250 V AC
Dielectric strength	• coil - contact 2 500 V AC
	• contact - contact 1 500 V AC
	• pole - pole 2 500 V AC
	• contact - coil distance
Contact - coil distance	• clearance ≥ 2,5 mm
	• creepage ≥ 4 mm

**General data**

Operating time (typical value)	AC: 10 ms DC: 13 ms
Release time (typical value)	AC: 8 ms DC: 3 ms
Electrical life	• resistive AC1 ≥ 10 <sup>5</sup> 12 A, 250 V AC
	• cos φ see Fig. 2
Mechanical life (cycles)	≥ 2 x 10 <sup>7</sup>
Dimensions (L x W x H)	27,5 x 21,2 x 35,6 mm ① 27,5 x 21,1 x 33,5 mm ② 27,5 x 21,2 x 33 mm ③
Weight	35 g
Ambient temperature	• storing -40...+85 °C
	• operating AC: -40...+55 °C DC: -40...+70 °C
Cover protection category	IP 40
Shock resistance (NO/NC)	10 g / 5 g
Vibration resistance	5 g 10...150 Hz
Solder bath temperature	max. 270 °C
Soldering time	max. 5 s

Standard contact material marked with bolt type.

① WT - standard plug-in version ② PCB version ③ Version with threaded bolt



Coil data - DC voltage version

Table 1

Coil code	Rated voltage V DC	Coil resistance ( $\pm 10\%$ ) at 20 °C $\Omega$	Coil operating range V DC	
			min. (at 20 °C)	max. (at 55 °C)
1005	5	28	4,0	5,5
1006	6	40	4,8	6,6
1012	12	160	9,6	13,2
<b>1024</b>	<b>24</b>	<b>640</b>	<b>19,2</b>	<b>26,4</b>
1048	48	2 600	38,4	52,8
1060	60	4 000	48,0	66,0
1080	80	7 100	64,0	88,0
1110	110	13 600	88,0	121,0
1125	125	16 000	100,0	137,5
<b>1220</b>	<b>220</b>	<b>54 000</b>	<b>176,0</b>	<b>242,0</b>

Standard coil rated voltages marked with bold type.

Coil data - AC 50/60 Hz voltage version

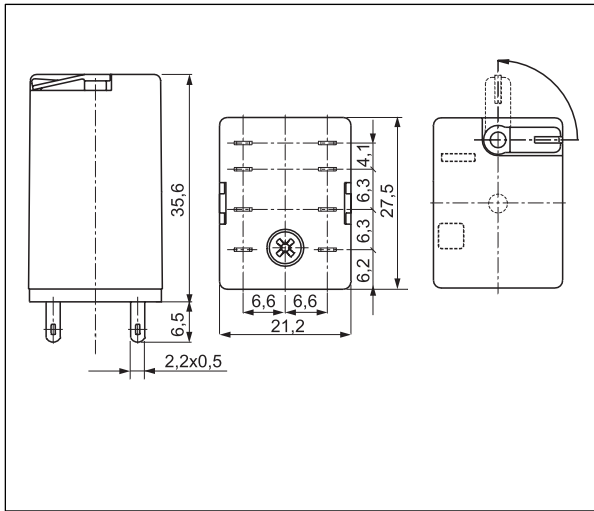
Table 2

Coil code	Rated voltage V AC	Coil resistance ( $\pm 10\%$ ) at 20 °C $\Omega$	Coil operating range V AC	
			min. (at 20 °C)	max. (at 55 °C)
5006	6	9,8	4,8	6,6
5012	12	39,5	9,6	13,2
<b>5024</b>	<b>24</b>	<b>158,0</b>	<b>19,2</b>	<b>26,4</b>
5042	42	470,0	33,6	46,2
5048	48	640,0	38,4	52,8
5060	60	930,0	48,0	66,0
5080	80	1 720,0	64,0	88,0
5110	110	3 450,0	88,0	121,0
5120	120	3 770,0	96,0	132,0
5127	127	4 000,0	101,6	139,0
5220	220	15 400,0	176,0	242,0
<b>5230</b>	<b>230</b>	<b>16 100,0</b>	<b>184,0</b>	<b>253,0</b>
5240	240	16 800,0	192,0	264,0

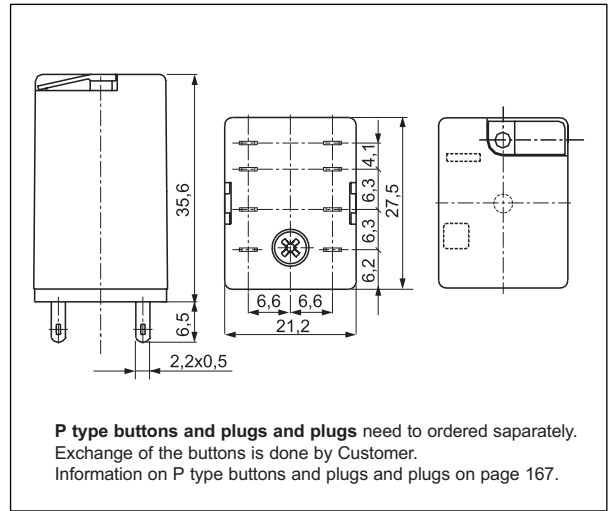
Standard coil rated voltages marked with bold type.



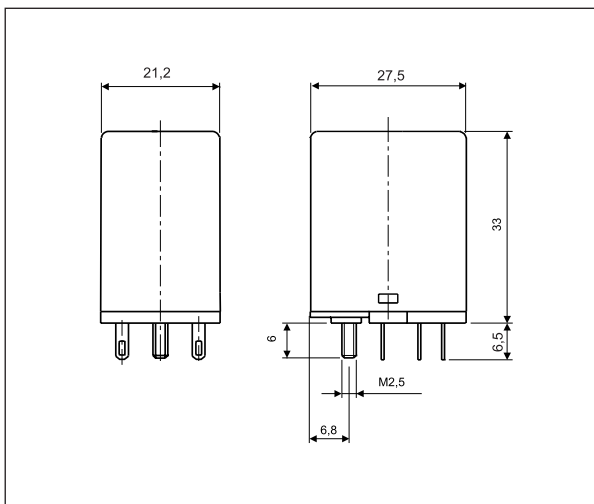
**Dimensions - plug-in version (WT), with manual testing/latching lever type T**



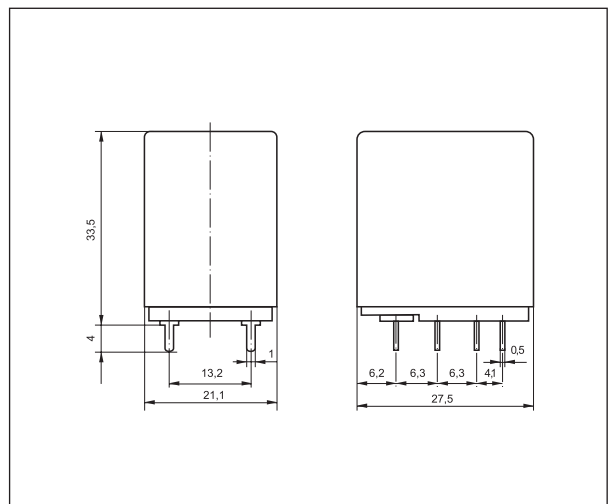
**Dimensions - plug-in version (WT), with P type buttons and plugs or plugs**



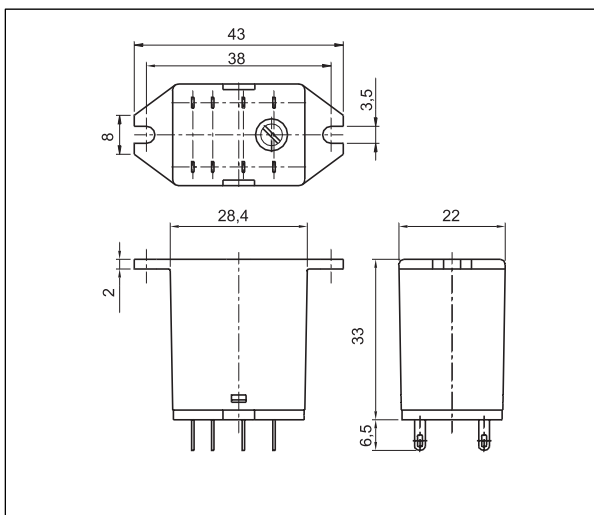
**Dimensions - version with threaded bolt**



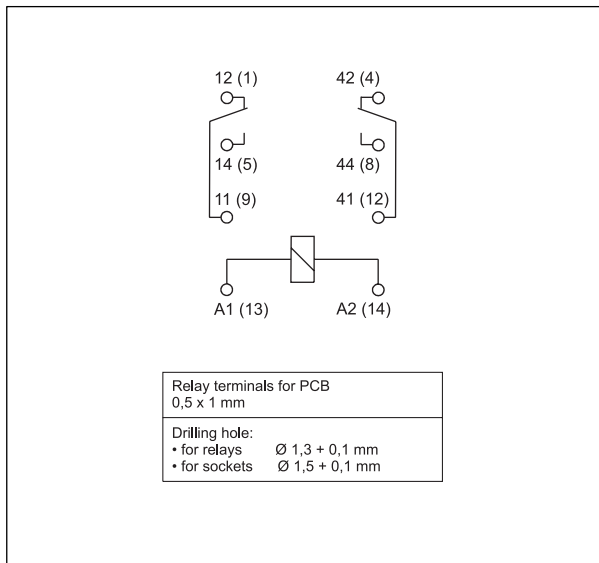
**Dimensions - PCB version (without WT)**



**Dimensions - version with mounting flange (without WT)**

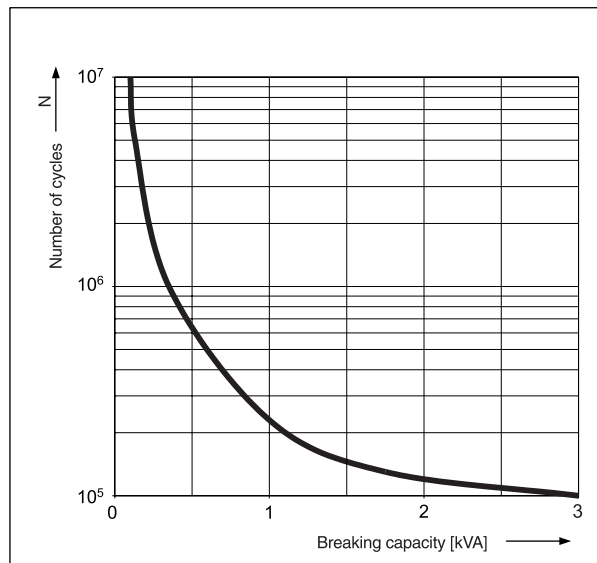


Connections diagram (pin side view)



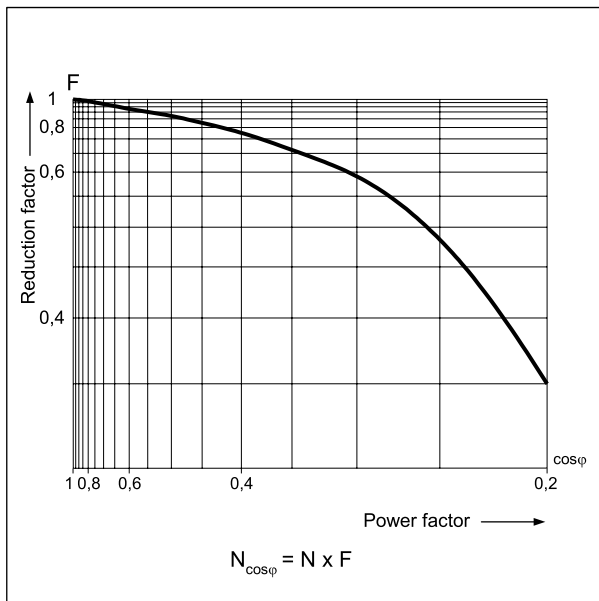
Electrical life at AC resistive load

Fig. 1



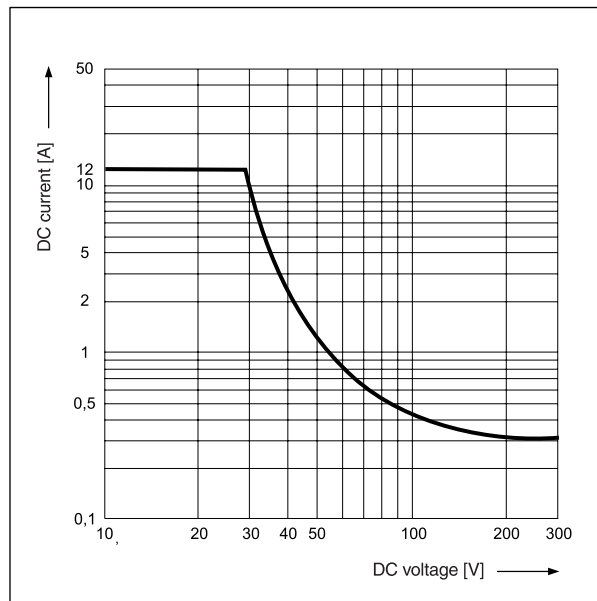
Electrical life reduction factor at AC inductive load

Fig. 2



Maximum DC resistive load breaking capacity

Fig. 3



Mounting

R2 relays are offered in versions: • standard, plug-in version with flag indicator and mechanical latching (WT). **Customer may exchange T type button with P type button (no latching) or with plug (no mechanical operation). P type buttons and plugs and plugs need to ordered separately** • for PCB (without WT) • with threaded bolt • with mounting flange (without WT).

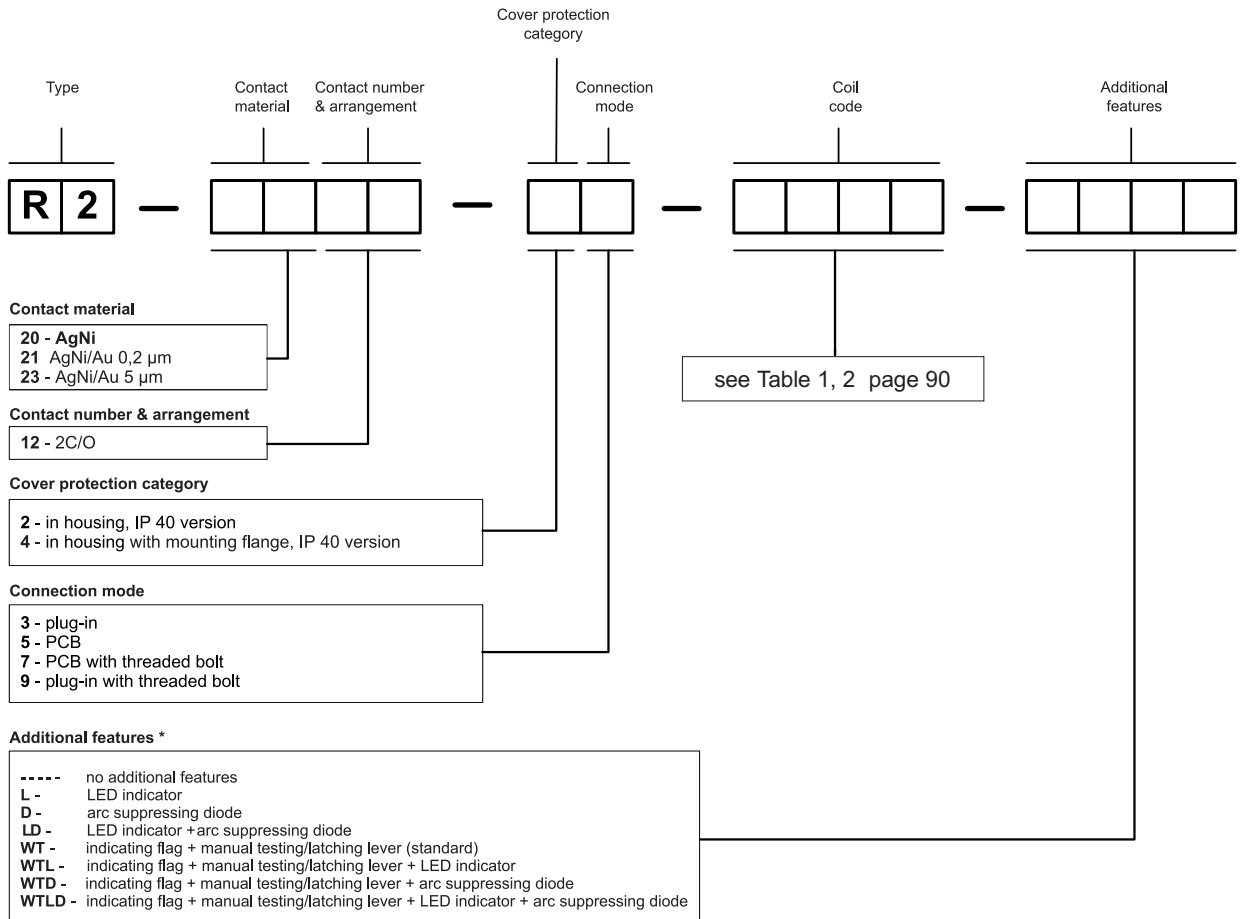
Relays R2 are designed for: • screw terminals sockets GZT2 and GZM2 with clip GZT4-0040 or G4 1052; screw terminals sockets GZR2 with clip G4 1052, 35 mm DIN rail mount, EN 50022 or on panel mounting. M... type signalling and protection plug-in modules are available with sockets GZT2 and GZM2 (see page 170) • terminals sockets for PCB mounting SU4/2D with clip G4 1053 (WT) or G4 1050 (without WT) • solder terminals sockets SU4/2L with clip G4 1053 (WT) or G4 1050 (without WT) and spring clamp G4 1040 • solder terminals sockets G4/2 with clip G4 1053 (WT) or G4 1050 (without WT) • direct PCB mounting.



### Contact material selection for different load types

- **AgNi** - for resistive or inductive loads,
- **AgNi/Au 0,2 µm** - contact surface protection against oxidation during storage,
- **AgNi/Au 5 µm** - for small resistive loads in control circuits.

### Ordering codes



\* **WT - standard features plug-in power relays**

D, LD, WTD, WTL D - only for DC coils

**P type buttons and plugs and plugs** ordered separately for substitution of T type button by Customers themselves:

- Button P R4 AC - orange (coils AC)
- Button P R4 DC - green (coils DC)
- Plug R4 AC - orange (coils AC)
- Plug R4 DC - green (coils DC)

Information on P type buttons and plugs and plugs on page 167.

**Note:**

DC coil polarity for versions equipped with D (arc suppression diode) and L (LED) is fixed.

Terminal A1 (13) "+"; terminal A2 (14) "-".

Supply polarity is marked on relay housing.

Button color represents type of supply: orange for AC coil, green for DC coil.

