

**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 ❶ 10 A / 250 V AC ❷
	DC1	12 A / 24 V DC ❶ 10 A / 24 V DC ❷
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 ❶ 10 A ❷	
Max. breaking capacity	AC1	3 000 VA ❶ 2 500 VA ❷
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 _n DC: ≥ 0,1 U _n	
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	
• 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 ⁵ 12 A, 250 V AC
	• cos φ see Fig. 2
Mechanical life (cycles)	≥ 2 x 10 ⁷
Dimensions (L x W x H)	27,5 x 21,2 x 35,6 mm ❶ 27,5 x 21,1 x 33,5 mm ❷
	27,5 x 21,2 x 33 mm ❸
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.

❶ WT - standard plug-in version ❷ PCB version ❸ Version with threaded bolt



Coil data - DC voltage version

Table 1

Coil code	Rated voltage V DC	Coil resistance (±10%) at 20 °C Ω	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
1024	24	640	19,2	26,4
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
1220	220	54 000	176,0	242,0

Standard coil rated voltages marked with bold type.

Coil data - AC 50/60 Hz voltage version

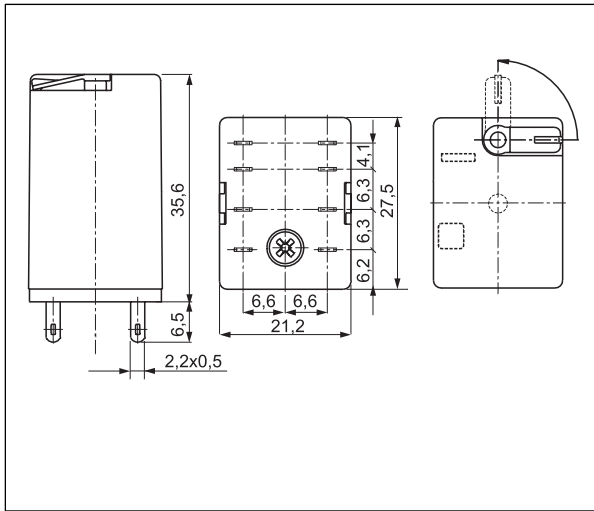
Table 2

Coil code	Rated voltage V AC	Coil resistance (±10%) at 20 °C Ω	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
5024	24	158,0	19,2	26,4
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
5230	230	16 100,0	184,0	253,0
5240	240	16 800,0	192,0	264,0

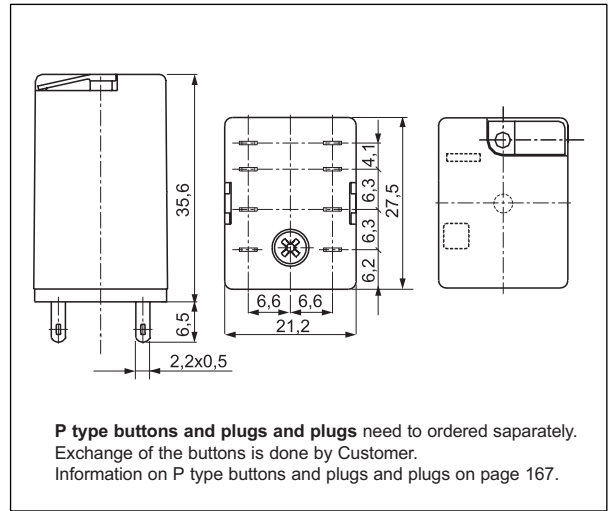
Standard coil rated voltages marked with bold type.



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

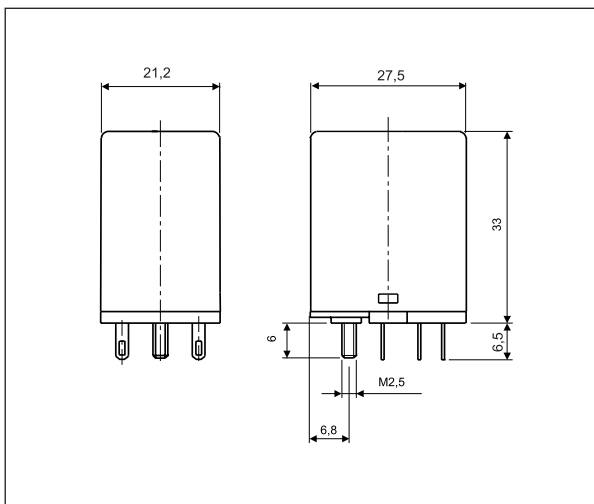


Dimensions - plug-in version (WT), with P type buttons and plugs or plugs

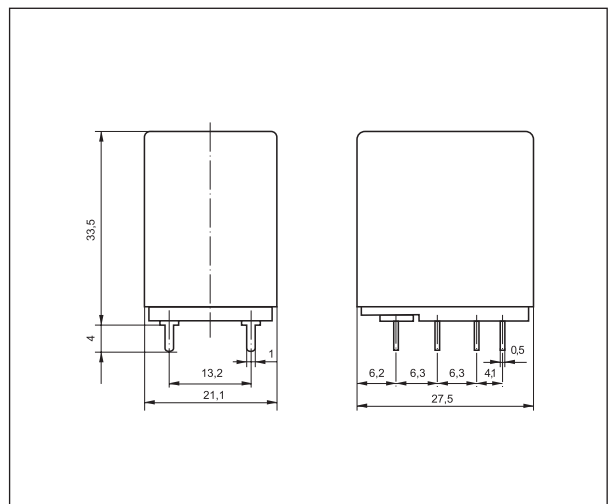


P type buttons and plugs and plugs need to ordered separately. Exchange of the buttons is done by Customer. Information on P type buttons and plugs and plugs on page 167.

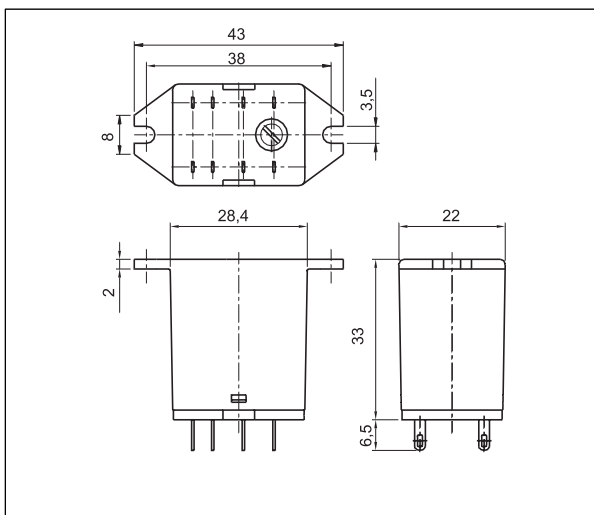
Dimensions - version with threaded bolt



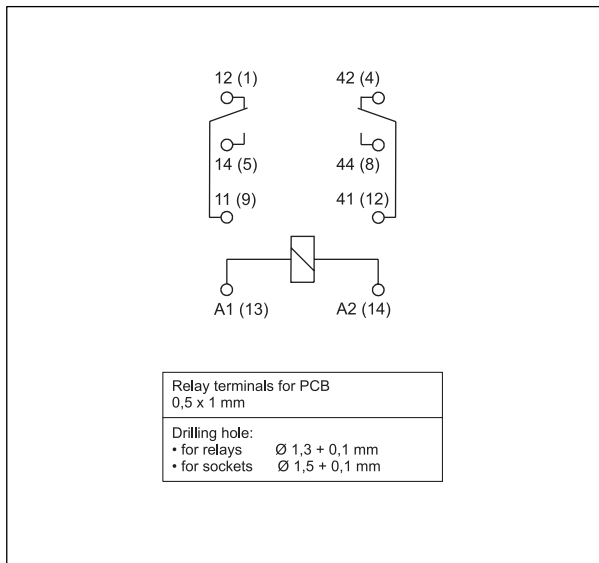
Dimensions - PCB version (without WT)



Dimensions - version with mounting flange (without WT)

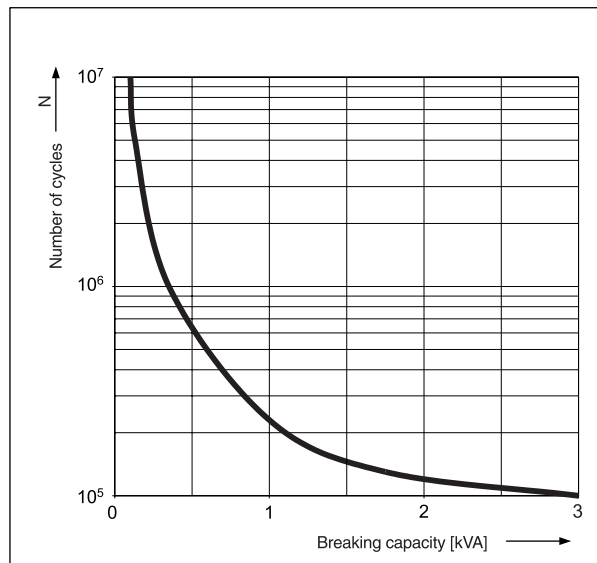


Connections diagram (pin side view)



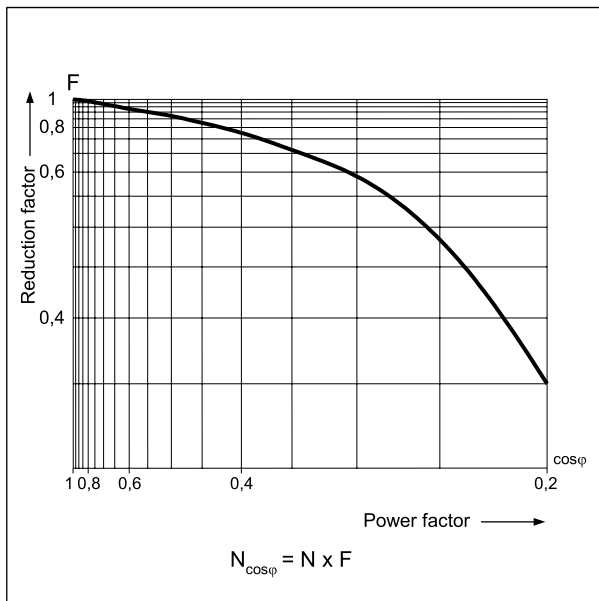
Electrical life at AC resistive load

Fig. 1



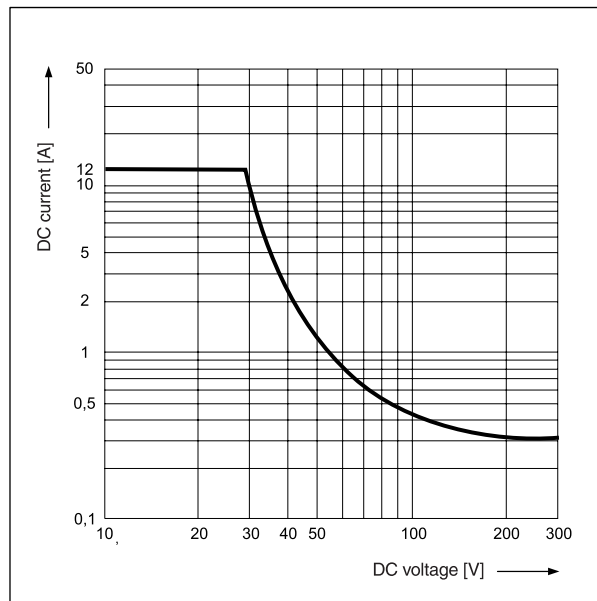
Electrical life reduction factor at AC inductive load

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).

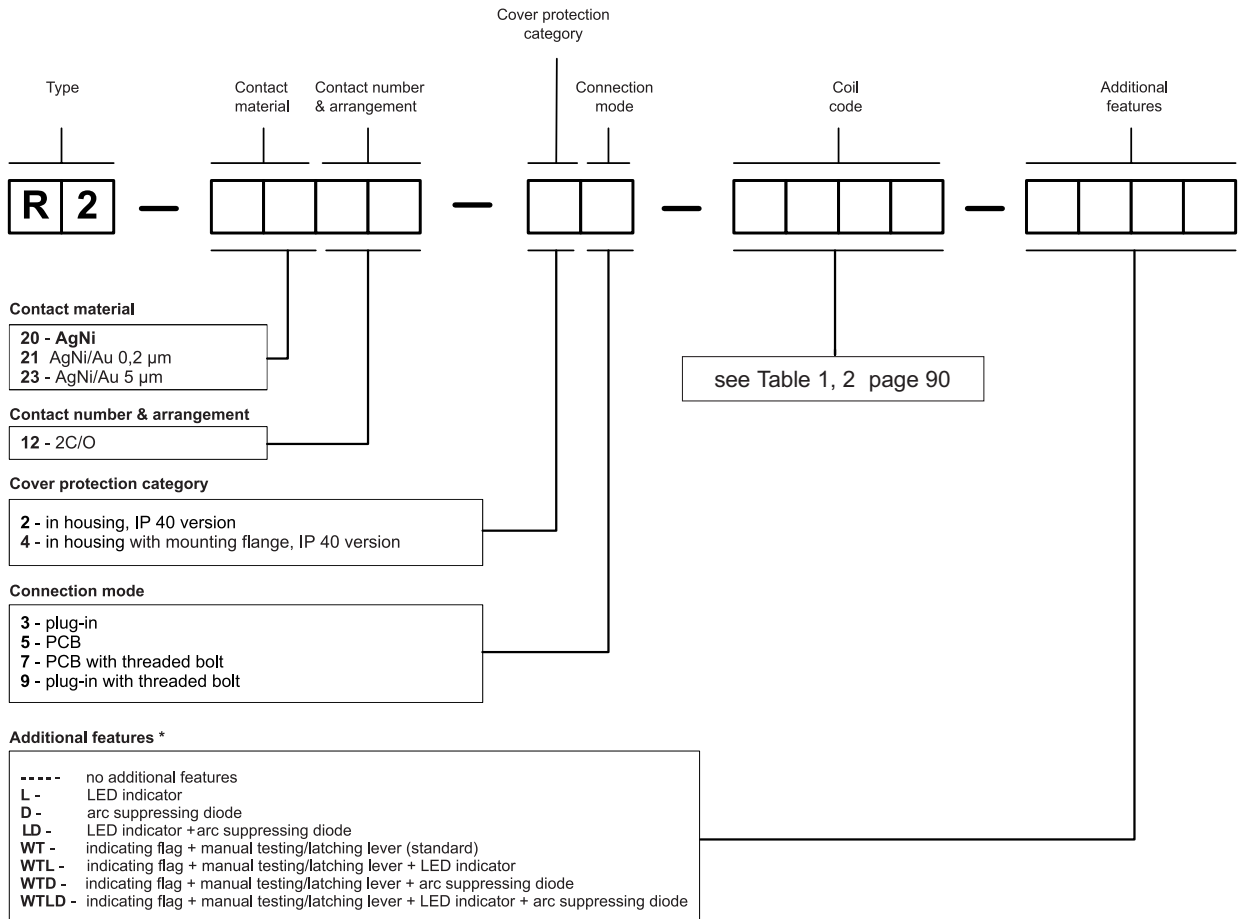
Relays R2 are designed for: • screw terminals sockets **GZT2** and **GZM2** with clip **GZT4-0040** or **G4 1052**; screw terminals sockets **GZR2** with clip **G4 1052**, 35 mm DIN rail mount, EN 50022 or on panel mounting. **M...** type signalling and protection plug-in modules are available with sockets **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, WTLD - 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.

