







6 A / 250 V AC

• Miniature dimensions • Cadmium - free contacts • AC and DC coils • For plug-in sockets, 35 mm DIN rail mount, EN 50022 or on panel mounting • For PCB and for soldering connections - option • General purpose relays • WT (mechanical indicator + lockable front test button) - standard features of relays for plug-in sockets. Relays may be provided with the test buttons type P (no latching) and plugs.

• Recognitions, certificates, directives: RoHS,    

Contacts

Contact number & arrangement		4C/O	
Contact material		AgNi , AgNi/Au 0.2 um, AgNi/Au 5 um	
Max. switching voltage	AC/DC	250 V / 250 V	
Min. switching voltage		5 V	
Rated load	AC1	6 A / 250 V AC	
	DC1	6 A / 24 V DC	
Min. switching current		5 mA AgNi, 5 mA AgNi/Au 0.2 um, 2 mA AgNi/Au 5 um	
Max. inrush current		12 A	
Rated current		6 A	
Max. breaking capacity	AC1	1 500 VA	
Min. breaking capacity		0.3 W AgNi, 0.3 W AgNi/Au 0.2 um, 0.1 W AgNi/Au 5 um	
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 Tables 1, 2
Rated power consumption	AC	1.6 VA
	DC	0.9 W

Insulation

Insulation category	B250	
Insulation rated voltage	250 V AC	
Rated surge voltage	2 500 V AC	
Overtoltage category	II IEC 61810-5 (PN-IEC 664-1)	
Insulation pollution degree	2	
Dielectric strength	• coil - contact	2 500 V AC
	• contact - contact	1 500 V AC
	• pole - pole	2 000 V AC
	• contact - coil distance	
• clearance		≥ 1.6 mm
	• creepage	≥ 3.2 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 6 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 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	• storage	-40...+85 °C
	• operating	AC: -40...+55 °C DC: -40...+70 °C
Cover protection category		IP 40
Environmental protection		RTI IEC 61810-7
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 materials are marked with bold type.

① For plug-in sockets version: standard (WT) ② For PCB version ③ For 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
5115	115	3 610.0	92.0	127.0
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

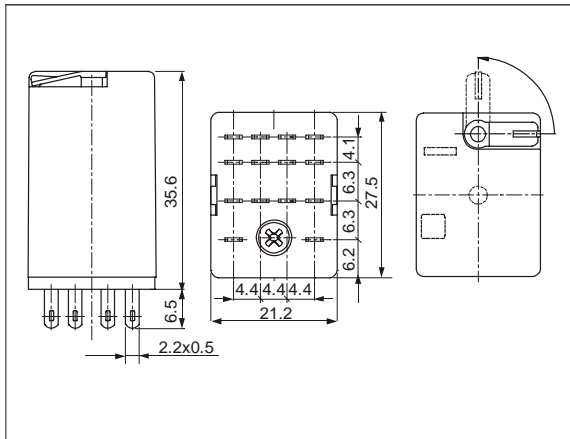
Standard coil rated voltages marked with bold type.

D4

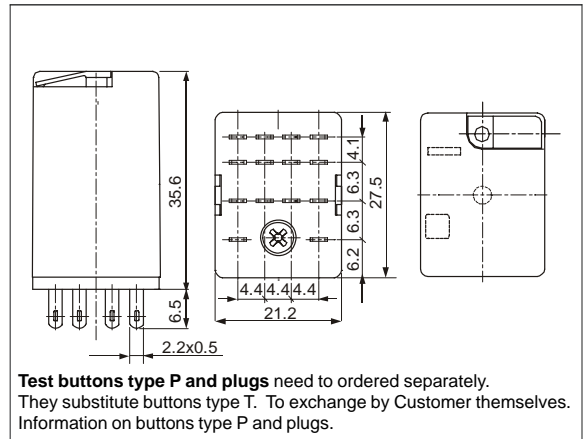
industrial relays



Dimensions - plug-in version (WT), with lockable front test button type T

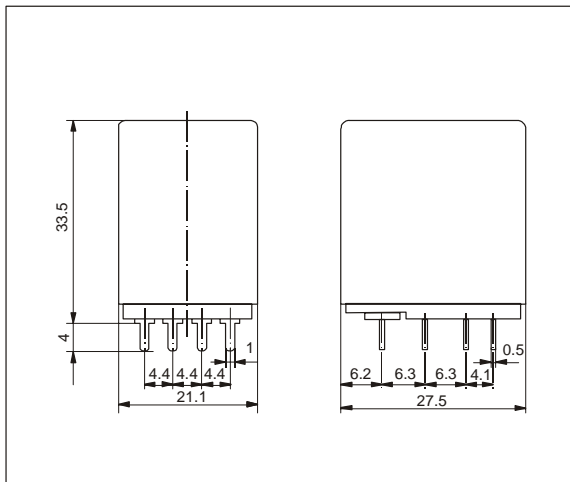


Dimensions - plug-in version (WT), with test button type P (no latching) or with plug (no manual operation)

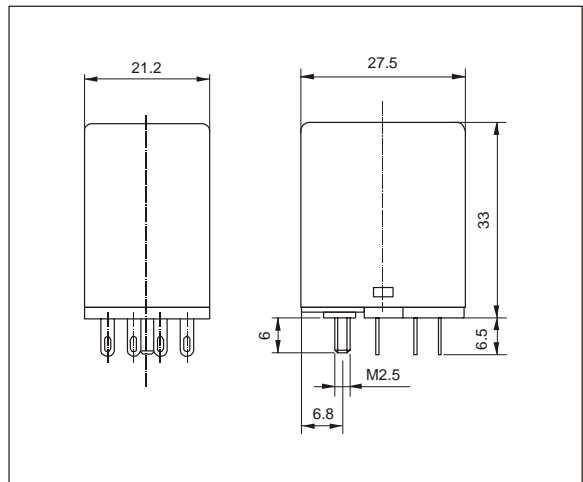


Test buttons type P and plugs need to be ordered separately. They substitute buttons type T. To be exchanged by Customer themselves. Information on buttons type P and plugs.

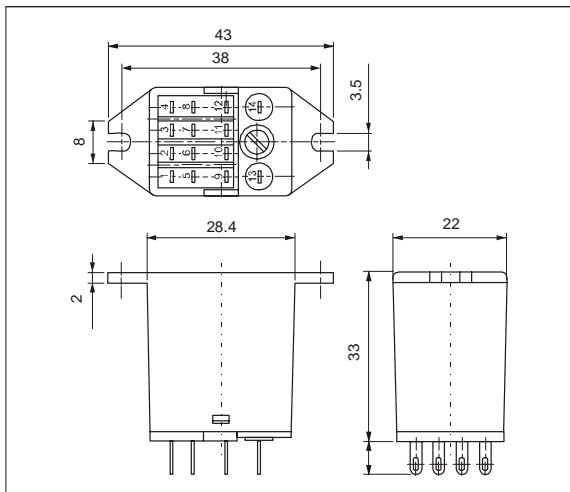
Dimensions - PCB version (without WT)



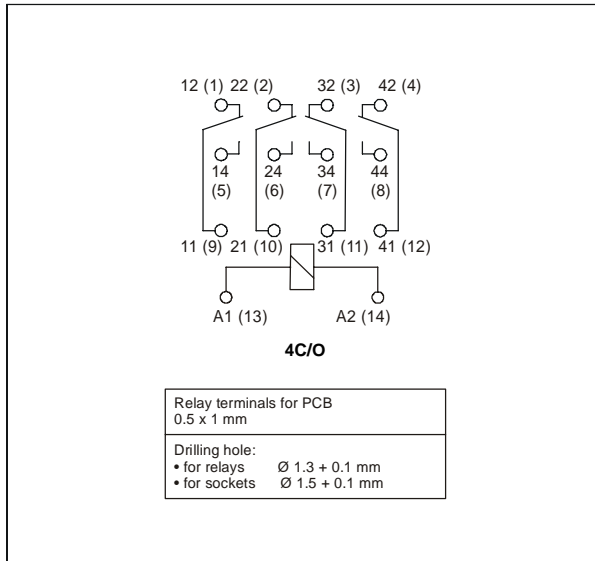
Dimensions - version with threaded bolt



Dimensions - version with mounting flange in the upper wall of the cover (without WT)

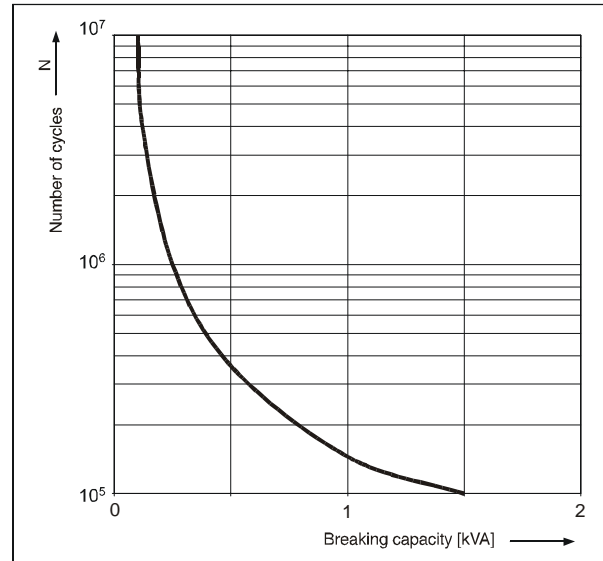


Connections diagram (pin side view)



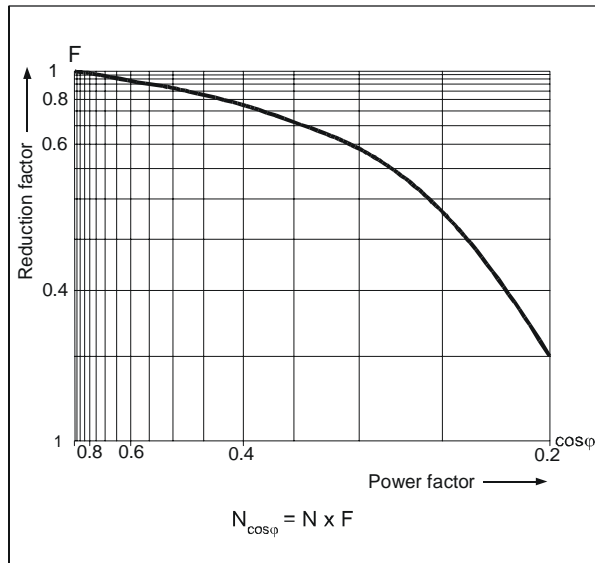
Electrical life at AC resistive load

Fig. 1



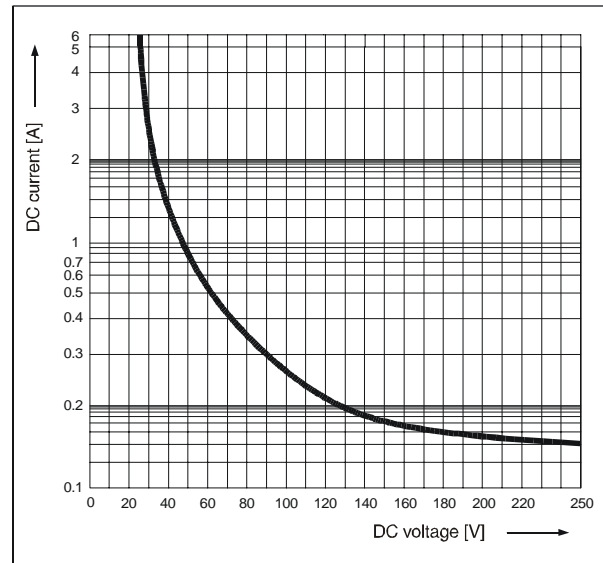
Electrical life reduction factor at AC inductive load

Fig. 2



Max. DC resistive load breaking capacity

Fig. 3



Mounting

Relays D4 are offered in versions:

- standard WT (mechanical indicator + lockable front test button), for plug-in sockets. In standard version of relays (WT) is possibility self-exchange of button type T for: button type P (no latching) or plug (no manual operation). Buttons type P and plugs need to ordered separately
- for PCB (without WT)
- with threaded bolt
- with mounting flange in the upper wall of the cover (without WT).

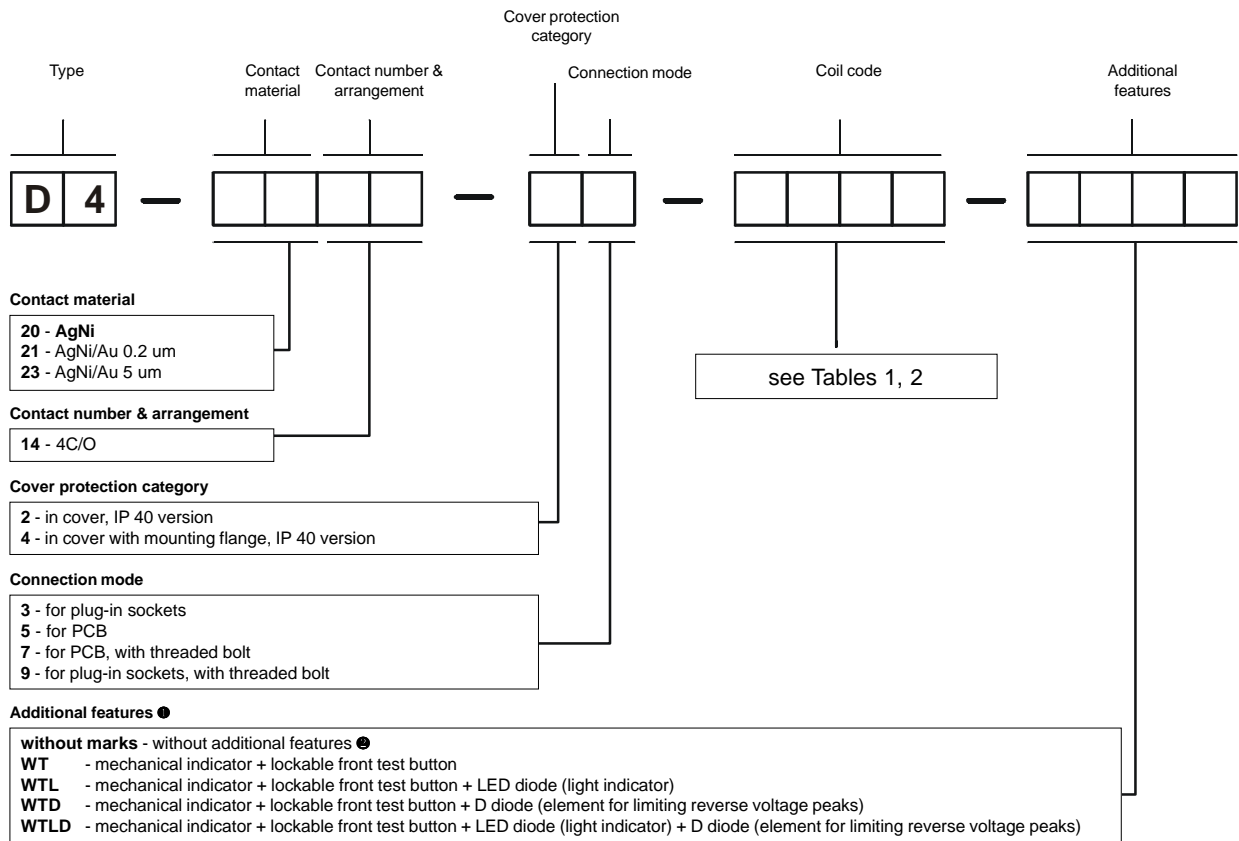
Relays D4 are designed for:

- screw terminals plug-in sockets DZT4 and DZM4 with clip DZT4-0040 or D4 1052; plug-in sockets DZR4 with clip D4 1052, 35 mm DIN rail mount, EN 50022 or on panel mounting. Signalling / protecting modules type DM... are available with sockets DZT4 and DZM4 (see page 240)
- plug-in sockets for PCB mounting DU4D with clip D4 1053 (WT) or D4 1050 (without WT)
- solder terminals sockets DU4L with clip D4 1053 (WT) or D4 1050 (without WT) and spring clamp D4 1040
- solder terminals sockets D4 with clip D4 1053 (WT) or D4 1050 (without WT)
- direct PCB mounting.

Contact material selection for different load types

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

Ordering codes



① WT - standard features of relays for plug-in sockets. WTD, WTLD - only for DC coils

② Refer relays for PCB; with threaded bolt; with mounting flange in the upper wall of the cover

Test buttons type P and plugs need to ordered separately. They substitute buttons type T. To exchange by Customer themselves.

Information on buttons type P and plugs.

- Button R4P-0001-A - orange colour (AC coils)
- Button R4P-0001-D - green colour (DC coils)
- Plug R4W-0003-A - orange colour (AC coils)
- Plug R4W-0003-D - green colour (DC coils)

Note:

For relays with DC coils and additional features inclusive: **D** - D diode (element for limiting reverse voltage peaks) and **L** - LED diode (light indicator) coil supply polarity is fixed. Terminal A1 (13) "+"; terminal A2 (14) "-". Supply polarity is marked on relay cover. Colour of lockable front test button type T represents type of coil supply current: orange - AC coil, green - DC coil.

Examples of ordering codes:

D4-2014-23-5230-WTL relay **D4**, contact material AgNi, with four changeover contacts, in cover IP 40, for plug-in sockets, voltage version 230 V AC 50/60 Hz, with mechanical indicator and lockable front test button and LED diode (light indicator)