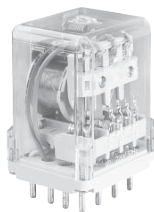











R15 2 C/O



R15 3 C/O



R15 4 C/O

- Relays of general application • For plug-in sockets, 35 mm rail mount acc. to PN-EN 60715 or on panel mounting • Cadmium - free contacts - R15 2 C/O, R15 3 C/O relays • WT (mechanical indicator + lockable front test button) - standard features of R15 2 C/O, R15 3 C/O relays in cover, for plug-in sockets. Relays may be provided with the test buttons (no latching) and plugs - page 256 • **Have obtained LR Type Approval Certificate (Lloyd's Register) - R15...WT 2 C/O, R15...WT 3 C/O**
- Recognitions, certifications, directives: RoHS,       

Contact data

Number and type of contacts	2 C/O, 3 C/O, 4 C/O	
Contact material	2 C/O, 3 C/O: AgNi , AgNi/Au 0,2 µm, AgNi/Au 5 µm 4 C/O: AgCdO , AgCdO/Au 0,2 µm, AgCdO/Au 5 µm	
Rated / max. switching voltage	AC	2 C/O, 3 C/O: 250 V / 440 V 4 C/O: 250 V / 250 V
Min. switching voltage	2 C/O, 3 C/O: 5 V AgNi, 5 V AgNi/Au 0,2 µm, 5 V AgNi/Au 5 µm 4 C/O: 10 V AgCdO, 10 V AgCdO/Au 0,2 µm, 5 V AgCdO/Au 5 µm	
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)
	AC3	370 W (single-phase motor, 1/2 HP / 240 V AC UL 508)
	DC1	10 A / 24 V DC (see Fig. 3)
	DC13	0,22 A / 120 V 0,1 A / 250 V (R300)
Min. switching current	2 C/O, 3 C/O: 5 mA AgNi, 5 mA AgNi/Au 0,2 µm, 2 mA AgNi/Au 5 µm 4 C/O: 10 mA AgCdO, 10 mA AgCdO/Au 0,2 µm, 2 mA AgCdO/Au 5 µm	
Max. inrush current	20 A	
Rated current	10 A	
Max. breaking capacity	AC1	2 500 VA
Min. breaking capacity	2 C/O, 3 C/O: 0,3 W AgNi, 0,3 W AgNi/Au 0,2 µm, 0,05 W AgNi/Au 5 µm 4 C/O: 0,5 W AgCdO, 0,5 W AgCdO/Au 0,2 µm, 0,05 W AgCdO/Au 5 µm	
Contact resistance	≤ 100 mΩ	
Max. operating frequency		
• at rated load	AC1	1 200 cycles/hour
• no load		

Coil data

Rated voltage	AC	2 C/O, 3 C/O: 6...240 V 50/60 Hz 4 C/O: 6...240 V 50 Hz, 60 Hz
	DC	6...220 V
Must release voltage	AC: ≥ 0,15 U _n DC: ≥ 0,1 U _n	
Operating range of supply voltage	see Tables 1, 2, 3, 4	
Rated power consumption	AC: 2,8 VA 50 Hz 2,5 VA 60 Hz DC: 1,5 W	

Insulation according to PN-EN 60664-1

Insulation rated voltage	250 V AC	
Rated surge voltage	2 500 V 1,2 / 50 µs	
Overvoltage category	III	
Insulation pollution degree	3	
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	2 C/O, 3 C/O, 4 C/O: ≥ 3 mm
• creepage	2 C/O, 3 C/O: ≥ 4,2 mm	4 C/O: ≥ 3,2 mm

General data

Operating / release time (typical values)	AC: 12 ms / 10 ms DC: 18 ms / 7 ms	
Electrical life	• resistive AC1	≥ 2 x 10 ⁵ 10 A, 250 V AC
	• cosφ	see Fig. 2
Mechanical life (cycles)	≥ 2 x 10 ⁷	
Dimensions (L x W x H)	2 C/O, 3 C/O: 35 x 35 x 54,4 mm	4 C/O: 35 x 42,5 x 54,5 mm
Weight	2 C/O, 3 C/O: 83 g	4 C/O: 95 g
Ambient temperature	• storage	-40...+85 °C
	• operating	AC: -40...+55 °C DC: -40...+70 °C
Cover protection category	IP 40	PN-EN 60529
Environmental protection	RTI	PN-EN 116000-3
Shock resistance	10 g	
Vibration resistance	5 g 10...150 Hz	
Solder bath temperature	max. 270 °C	
Soldering time	max. 5 s	

The data in bold type pertain to the standard versions of the relays.

Coil data - DC voltage version

Table 1

Coil code	Rated voltage U_n V DC	Coil resistance $\pm 10\%$ at 20 °C Ω	Coil operating range V DC	
			min. (at 20 °C)	max. (at 55 °C)
1006	6	28	4,8	6,6
1012	12	110	9,6	13,2
1024	24	430	19,2	26,4
1048	48	1 750	38,4	52,8
1060	60	2 700	48,0	66,0
1110	110	9 200	88,0	121,0
1120	120	11 000	96,0	132,0
1220	220	37 000	176,0	242,0

The data in bold type pertain to the standard versions of the relays.

Coil data - AC 50/60 Hz voltage version (standard for R15 2C/O, R15 3C/O)

Table 2

Coil code	Rated voltage U_n V AC	Coil resistance $\pm 15\%$ at 20 °C Ω	Coil operating range V AC	
			min. (at 20 °C)	max. (at 55 °C)
5006	6	4,3	4,8	6,6
5012	12	18,5	9,6	13,2
5024	24	75,0	19,2	26,4
5048	48	305,0	38,4	52,8
5060	60	475,0	48,0	66,0
5115	115	1 840,0	92,0	126,5
5120	120	1 910,0	96,0	132,0
5220	220	6 980,0	176,0	242,0
5230	230	7 080,0	184,0	253,0
5240	240	7 760,0	192,0	264,0

The data in bold type pertain to the standard versions of the relays.

Coil data - AC 50 Hz voltage version (standard for R15 4C/O)

Table 3

Coil code	Rated voltage U_n V AC	Coil resistance $\pm 15\%$ at 20 °C Ω	Coil operating range V AC	
			min. (at 20 °C)	max. (at 55 °C)
3006	6	4,8	4,8	6,6
3012	12	20,0	9,6	13,2
3024	24	72,0	19,2	26,4
3048	48	360,0	38,4	52,8
3060	60	520,0	48,0	66,0
3115	115	2 100,0	92,0	126,5
3120	120	2 300,0	96,0	132,0
3220	220	7 000,0	176,0	242,0
3230	230	7 900,0	184,0	253,0
3240	240	8 300,0	192,0	264,0

Coil data - AC 60 Hz voltage version (special for R15 4C/O)

Table 4

Coil code	Rated voltage U_n V AC	Coil resistance $\pm 15\%$ at 20 °C Ω	Coil operating range V AC	
			min. (at 20 °C)	max. (at 55 °C)
6006	6	4,8	4,8	6,6
6012	12	17,0	9,6	13,2
6024	24	75,0	19,2	26,4
6048	48	310,0	38,4	52,8
6060	60	490,0	48,0	66,0
6110	110	1 760,0	88,0	121,0
6120	120	2 000,0	96,0	132,0
6220	220	6 900,0	176,0	242,0
6230	230	7 000,0	184,0	253,0
6240	240	7 100,0	192,0	264,0

Mounting

Relays R15 2 C/O and R15 3 C/O are offered in version: • 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 test button R15-M404 (no latching) or plug R15-M203 (no manual operation). Test buttons (no latching) and plugs need to ordered separately.**

Relays **R15 2 C/O** are designed for: • screw terminals plug-in sockets **PZ8** with clip **PZ11 0031**, 35 mm rail mount acc. to PN-EN 60715 or on panel mounting with two M3 screws • screw terminals plug-in sockets **GZU8** with clip **GZU 1052**, 35 mm rail mount acc. to PN-EN 60715 • screw terminals plug-in sockets **GZ8** with clip **GZ 1050**, on panel mounting with two M3 screws • screw terminals plug-in sockets **GZS8**, 35 mm rail mount acc. to PN-EN 60715 or on panel mounting with two M3 screws • screw terminals plug-in sockets **GZP8** with clip **GZP-0054**, 35 mm rail mount acc. to PN-EN 60715 or on panel mounting with two M3 screws • solder terminals sockets **GOP8** with clip **R159 1051** and spring clamp **R15 5922** • direct PCB mounting.

Relays **R15 3 C/O** are designed for: • screw terminals plug-in sockets **PS11** and **PZ11** with clip **PZ11 0031**, 35 mm rail mount acc. to PN-EN 60715 or on panel mounting with two M3 screws • screw terminals plug-in sockets **GZU11** with clip **GZU 1052**, 35 mm rail mount acc. to PN-EN 60715 • screw terminals plug-in sockets **GZ11** with clip **GZ 1050**, on panel mounting with two M3 screws • screw terminals plug-in sockets **GZS11**, 35 mm rail mount acc. to PN-EN 60715 or on panel mounting with two M3 screws • screw terminals plug-in sockets **GZP11** with clip **GZP-0054**, 35 mm rail mount acc. to PN-EN 60715 or on panel mounting with two M3 screws • solder terminals sockets **GOP11** with clip **R159 1051** and spring clamp **R15 5922** • direct PCB mounting.

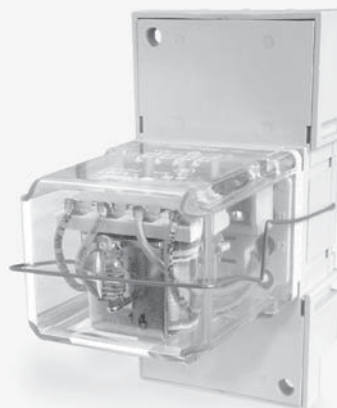
Relays R15 4 C/O are offered in version • in cover, for plug-in sockets.

Relays **R15 4 C/O** are designed for: • screw terminals plug-in sockets **GZ14U** with clip **GZ14 0737**, 35 mm rail mount acc. to PN-EN 60715 • screw terminals plug-in sockets **GZ14** with clip **GZ14 0737**, on panel mounting with two M3 screws • screw terminals plug-in sockets **GZ14Z** with clip **GZ14 0737**, on panel mounting with two M3 screws • solder terminals sockets **GOP14** with clip **R15 0736** and spring clamp **R15 5922**.

NEW product 

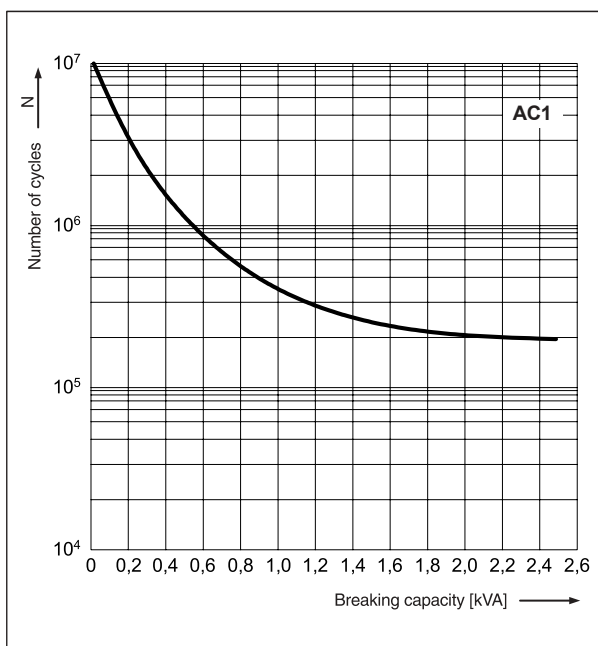
GZ14Z

Screw terminals plug-in socket for R15 4 C/O **to be mounted behind the assembly panel** - see page 247.



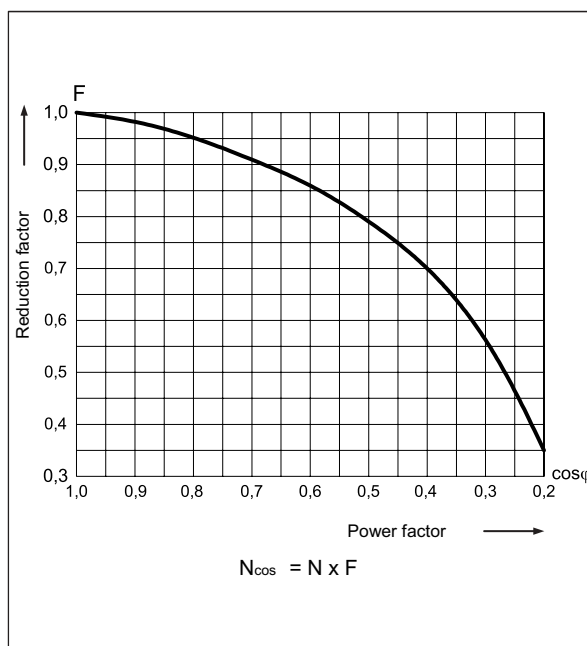
Electrical life at AC resistive load

Fig. 1



Electrical life reduction factor at AC inductive load

Fig. 2

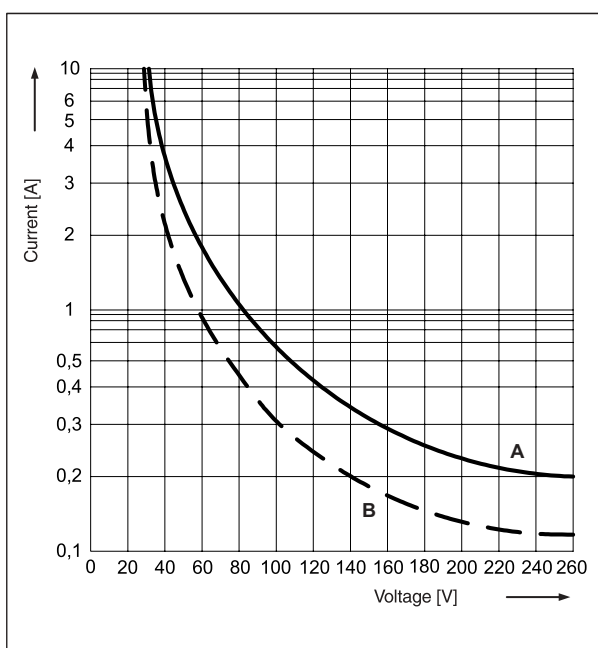


Max. DC breaking capacity

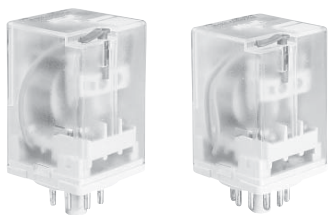
A - resistive load DC1

Fig. 3

B - inductive load L/R = 40 ms






R15 2 C/O, R15 3 C/O in cover, for plug-in sockets



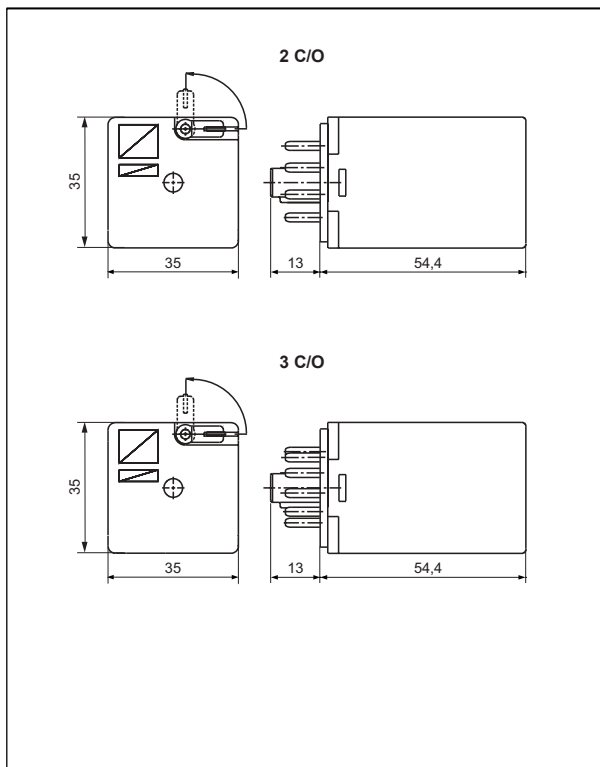
R15 2 C/O

R15 3 C/O

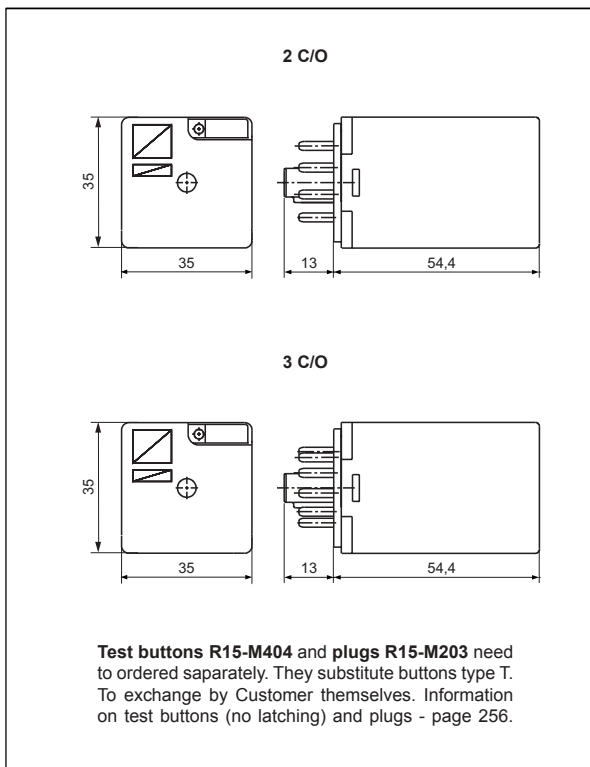
- WT (mechanical indicator + lockable front test button) - standard features of R15 2 C/O, R15 3 C/O relays in cover, for plug-in sockets. Relays may be provided with the test buttons (no latching) and plugs - page 256
- **Have obtained LR Type Approval Certificate (Lloyd's Register) - R15...WT 2 C/O, R15...WT 3 C/O**

• Recognitions, certifications, directives: RoHS,       

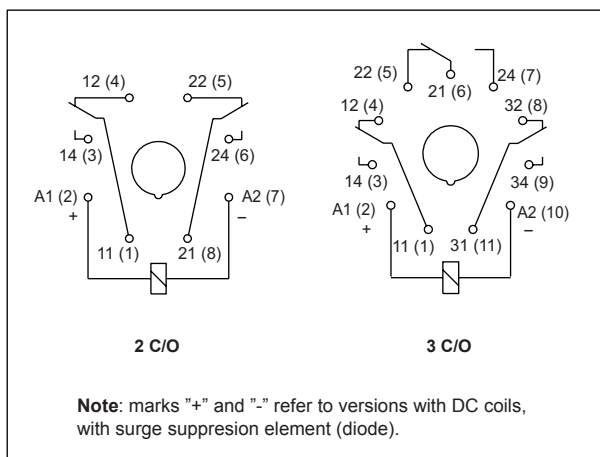
Dimensions - plug-in version (WT), with lockable front test button type T



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

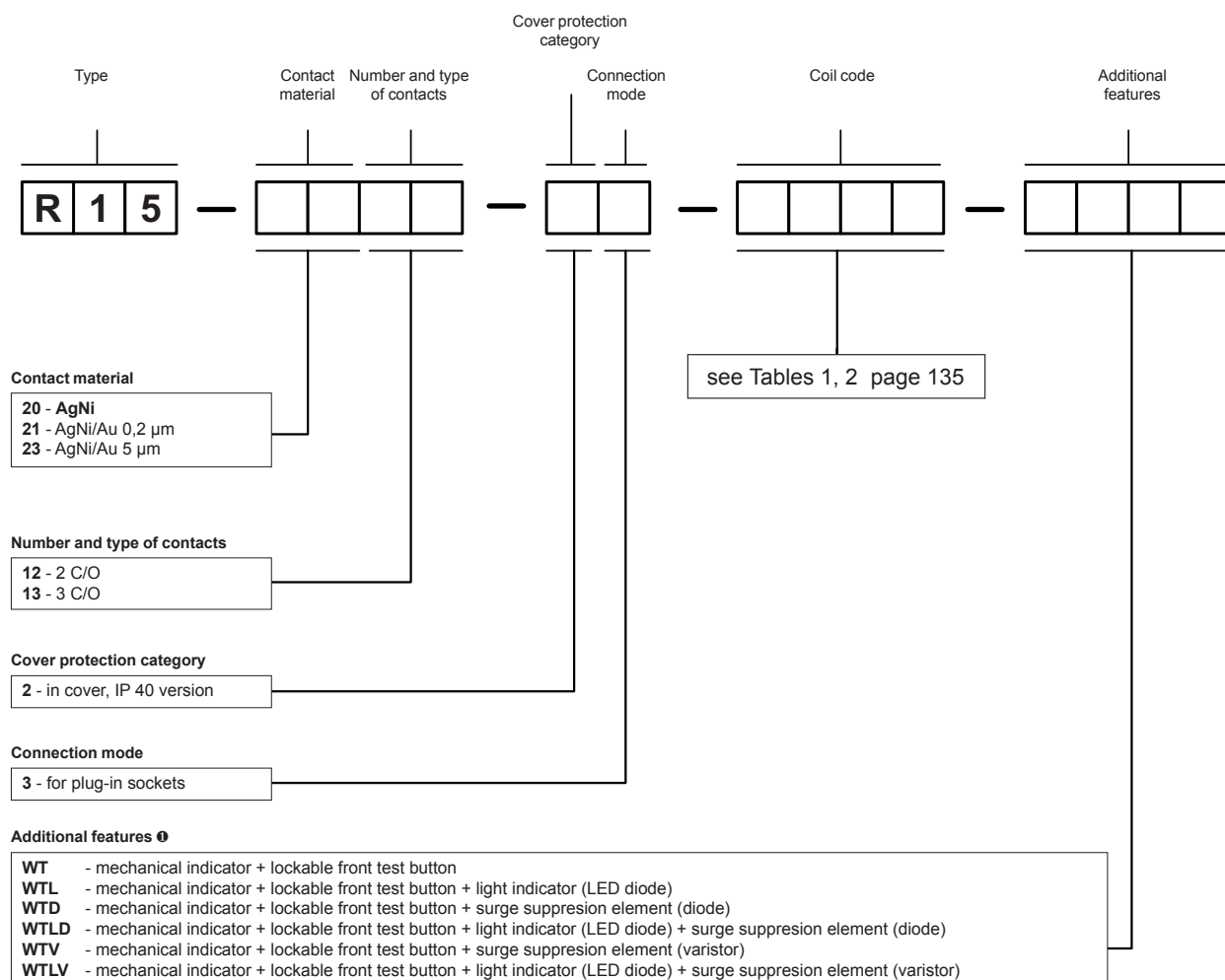


Connection diagrams (pin side view)



R15 2 C/O, R15 3 C/O in cover, for plug-in sockets

Ordering codes



❶ WT - standard features of relays for plug-in sockets. WTD, WTLT - only for DC coils, WTV, WTLV - only for AC coils

Test buttons (no latching) and plugs need to be ordered separately. They substitute buttons type T. To be exchanged by the customer themselves. Information on test buttons (no latching) and plugs - page 256.

- Button R15-M404-A - orange colour (AC coils)
- Button R15-M404-D - green colour (DC coils)
- Plug R15-M203-A - orange colour (AC coils)
- Plug R15-M203-D - green colour (DC coils)

Note:

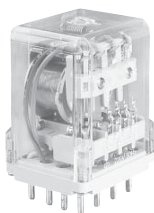
Colour of lockable front test button type T represents type of coil supply current: orange - AC coil, green - DC coil.

Examples of ordering codes:

- R15-2012-23-1024-WT** relay R15, contact material AgNi, with two changeover contacts, in cover IP 40, for plug-in sockets, voltage version 24 V DC, with mechanical indicator and lockable front test button
- R15-2013-23-5230-WTL** relay R15, contact material AgNi, with three 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 light indicator (LED diode)

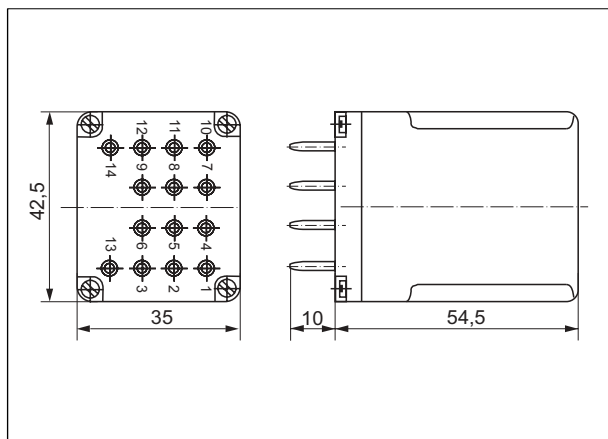
R15 4 C/O in cover, for plug-in sockets

• Recognitions, certifications, directives: RoHS,     

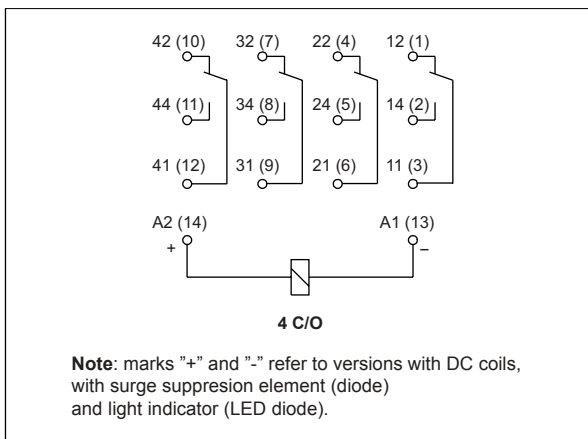


R15 4 C/O

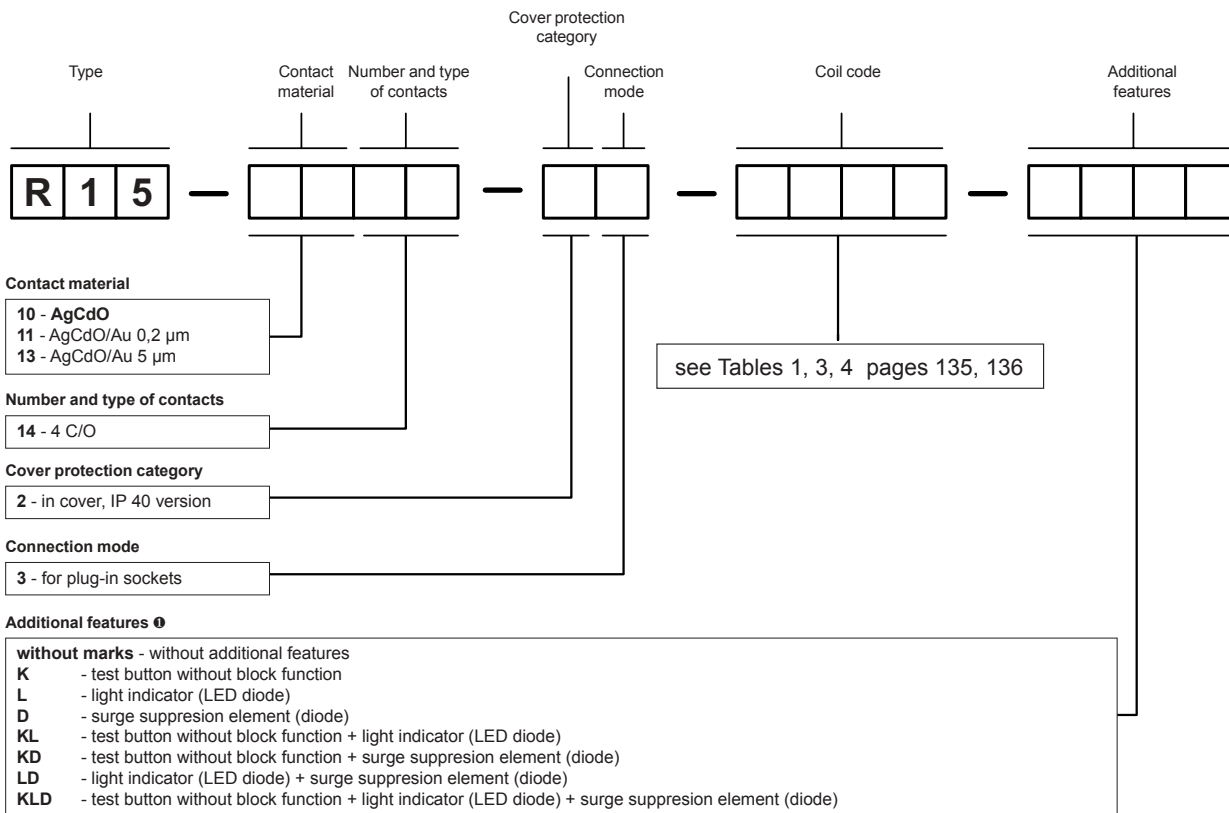
Dimensions



Connection diagram (pin side view)



Ordering codes



 **D, KD, LD, KLD** - only for DC coils

Note: for R15 4 C/O relays 50/60 Hz coils are not offered, show coil according with Table 3 or 4, pages 135, 135.

Example of ordering code:

R15-1014-23-3230-K relay **R15**, contact material AgCdO, with four changeover contacts, in cover IP 40, for plug-in sockets, voltage version 230 V AC 50 Hz, with test button without block function