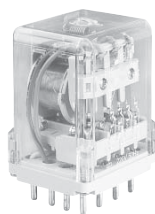











R15 2 C/O



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 251 • **Have obtained LR Type Approval Certificate (Lloyd's Register) - R15...WT 2 C/O, R15...WT 3 C/O** • Recognitions, certifications, directives: RoHS, AUCOTEAM GmbH Berlin - railway standards,       

### Contact data

Number and type of contacts	2 C/O, 3 C/O, 4 C/O	
Contact material	2 C/O, 3 C/O: <b>AgNi</b> , AgNi/Au 0,2 µm, AgNi/Au 5 µm 4 C/O: <b>AgCdO</b> , 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 <sub>n</sub> DC: ≥ 0,1 U <sub>n</sub>	
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 <sup>5</sup> 10 A, 250 V AC
	• cosφ	see Fig. 2
Mechanical life (cycles)	≥ 2 x 10 <sup>7</sup>	
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 $\Omega$	Coil operating range V DC	
			min. (at 20 °C)	max. (at 55 °C)
1006	6	28	4,8	6,6
<b>1012</b>	<b>12</b>	<b>110</b>	<b>9,6</b>	<b>13,2</b>
<b>1024</b>	<b>24</b>	<b>430</b>	<b>19,2</b>	<b>26,4</b>
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
<b>1220</b>	<b>220</b>	<b>37 000</b>	<b>176,0</b>	<b>242,0</b>

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

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

Table 2

Coil code	Rated voltage $U_n$ V AC	Coil resistance $\pm 15\%$ at 20 °C $\Omega$	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
<b>5024</b>	<b>24</b>	<b>75,0</b>	<b>19,2</b>	<b>26,4</b>
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
<b>5230</b>	<b>230</b>	<b>7 080,0</b>	<b>184,0</b>	<b>253,0</b>
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 4 C/O)

Table 3

Coil code	Rated voltage $U_n$ V AC	Coil resistance $\pm 15\%$ at 20 °C $\Omega$	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 4 C/O)

Table 4

Coil code	Rated voltage $U_n$ V AC	Coil resistance $\pm 15\%$ at 20 °C $\Omega$	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	65,0	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** 

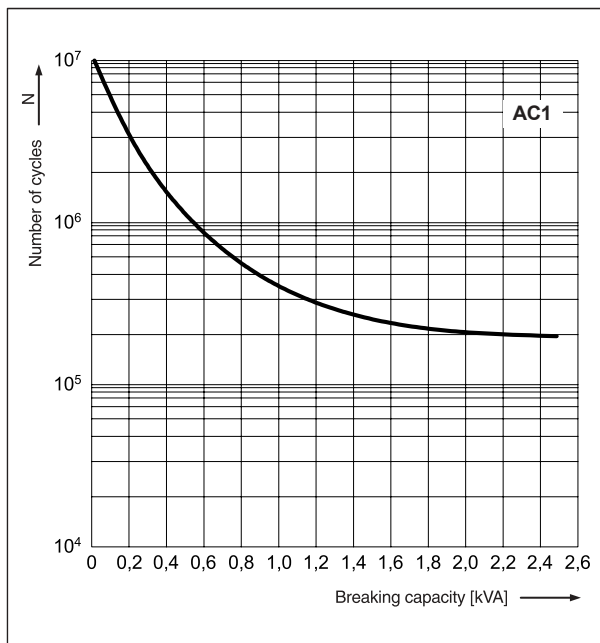
### GZ14Z

Screw terminals plug-in socket for R15 4 C/O **to be mounted behind the assembly panel** - see page 248.



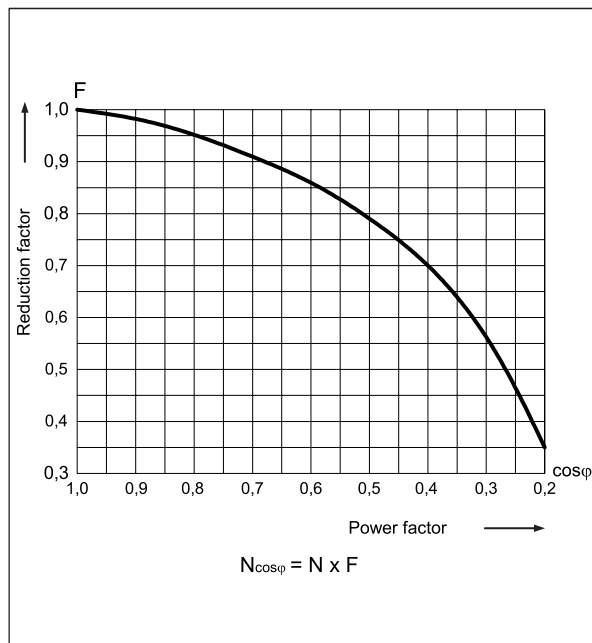
**Electrical life at AC resistive load.**  
Switching frequency: 1 200 cycles/hour

Fig. 1



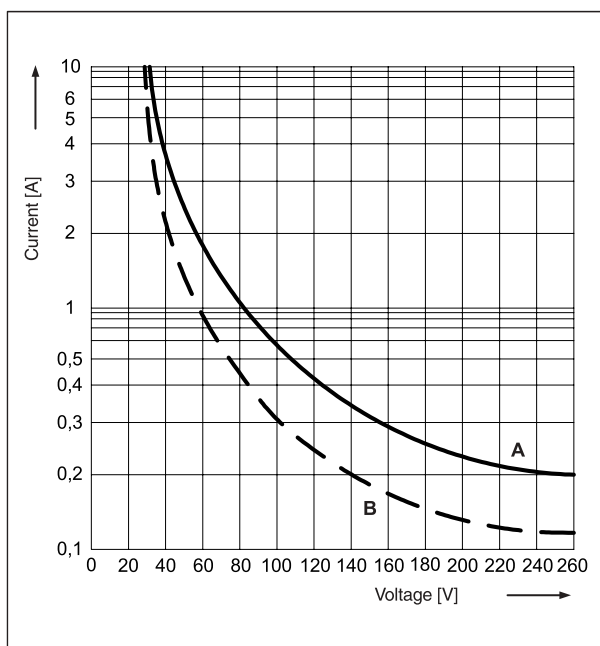
**Electrical life reduction factor at AC inductive load**

Fig. 2




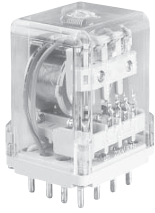
**Max. DC breaking capacity**  
A - resistive load DC1  
B - inductive load L/R = 40 ms

Fig. 3



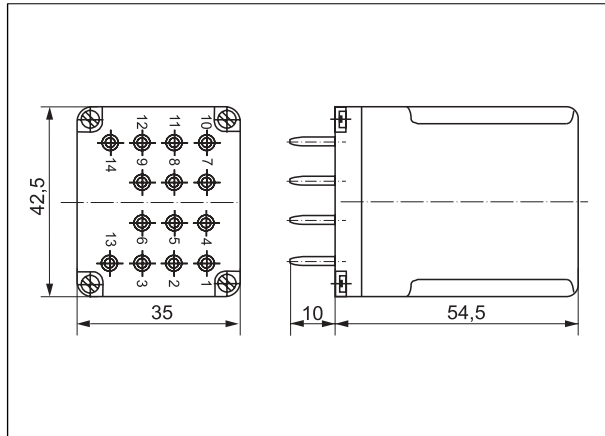
## R15 4 C/O in cover, for plug-in sockets

• Recognitions, certifications, directives: RoHS,     

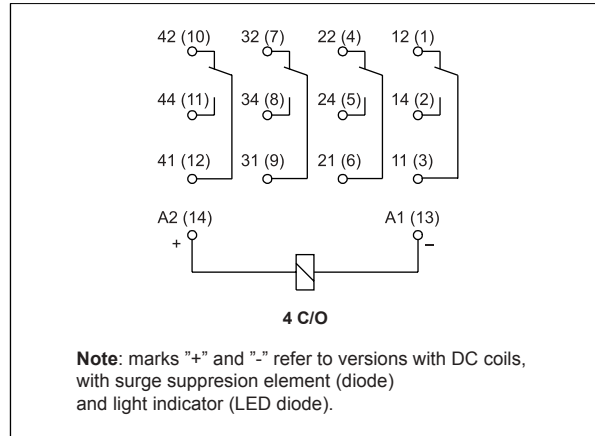


R15 4 C/O

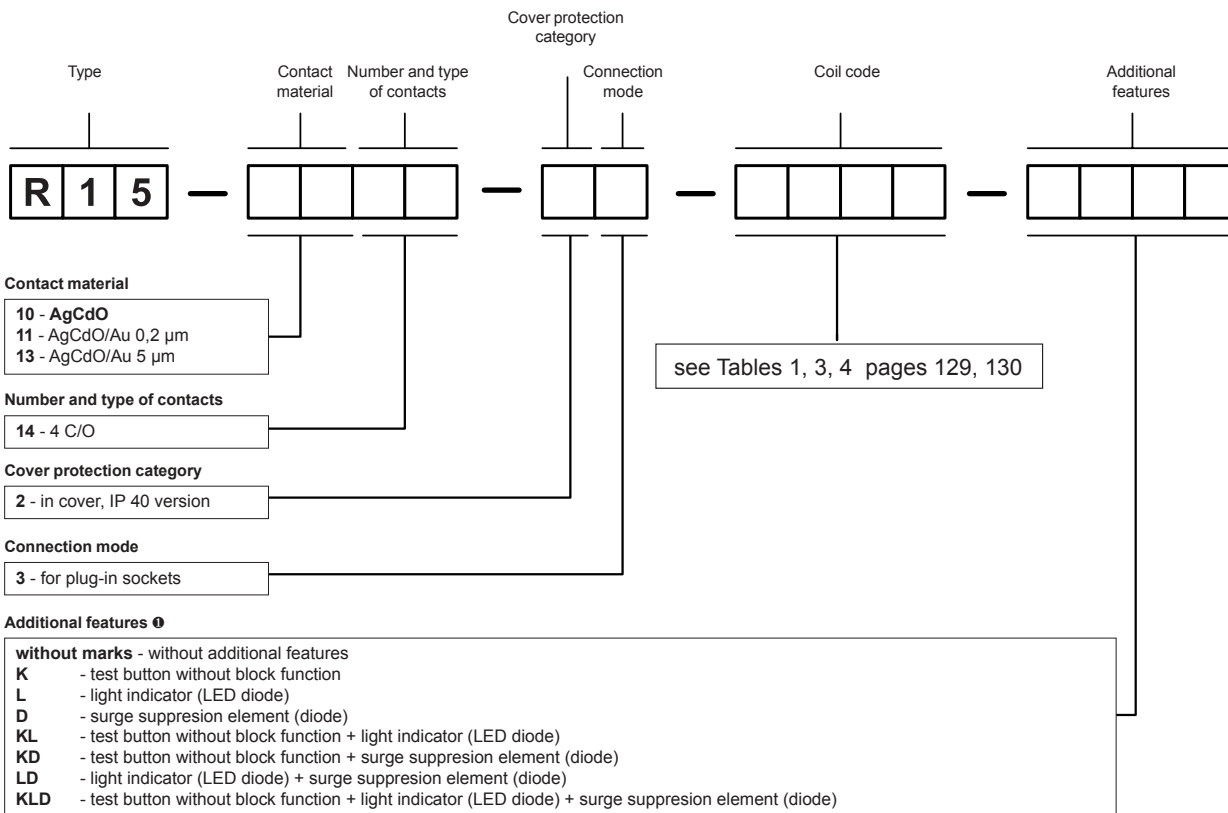
### Dimensions



### 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 129, 130.

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

# Plug-in sockets and accessories

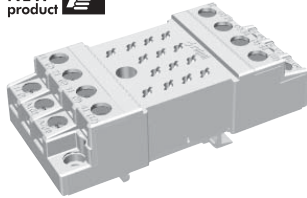
## for relays R15 4 C/O

### GZ14U

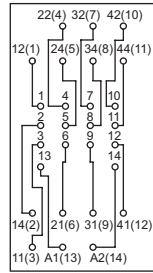
For R15 4 C/O

Screw terminals  
Maximum screw torque: 0,7 Nm  
35 mm rail mount acc. to PN-EN 60715  
96,8 x 46,2 x 33,3 mm  
Four poles  
10 A, 250 V AC

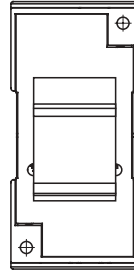
NEW product



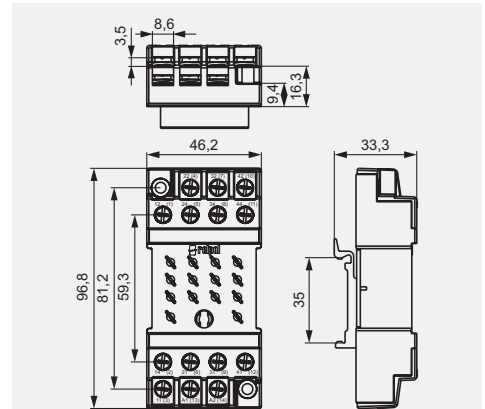
### Connection diagram



### Adaptor



### Dimensions



### Accessories

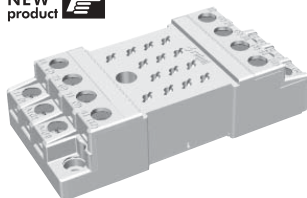
GZ14 0737

### GZ14

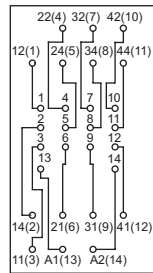
For R15 4 C/O

Screw terminals  
Maximum screw torque: 0,7 Nm  
On panel mounting  
96,8 x 46,2 x 24,5 mm  
Four poles  
10 A, 250 V AC

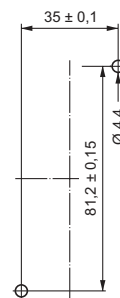
NEW product



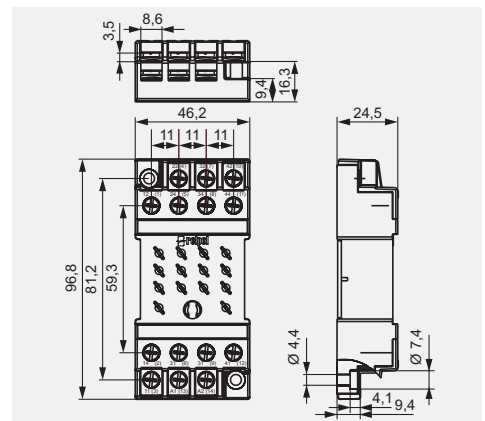
### Connection diagram



### Mounting dimensions



### Dimensions



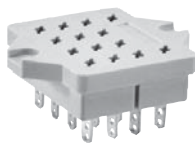
### Accessories

GZ14 0737

### GOP14

For R15 4 C/O

Solder terminals  
50 x 42 x 23 mm  
Four poles  
10 A, 250 V AC



### Accessories

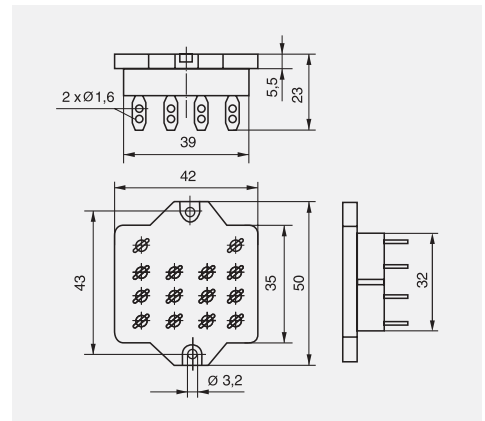


R15 0736



R15 5922

### Dimensions



# Plug-in sockets and accessories

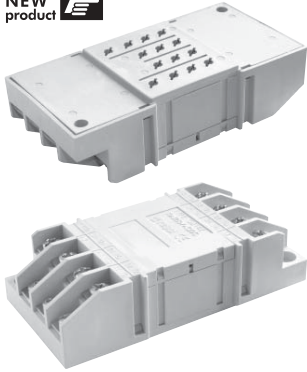
## for relays R15 4 C/O

### GZ14Z

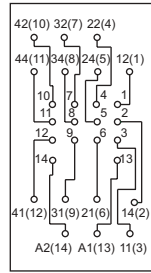
For R15 4 C/O

Screw terminals  
 Maximum screw torque: 0,7 Nm  
**On panel mounting, behind**  
 92,2 x 46 x 23 mm  
 Four poles  
 10 A, 250 V AC

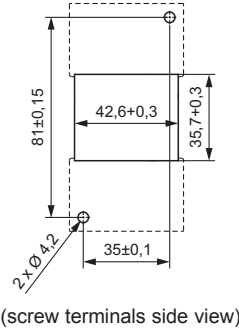
NEW product 



### Connection diagram

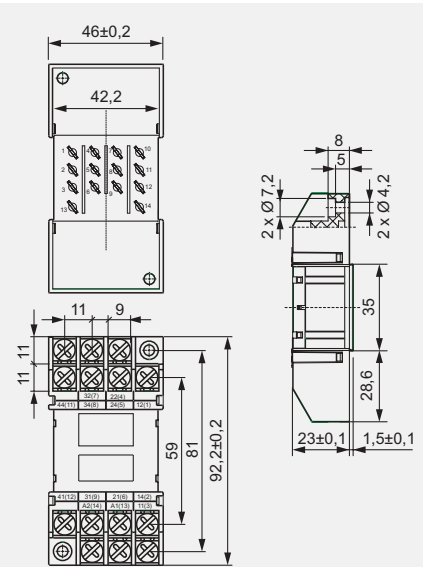


### Mounting dimensions



GZ14 0737

### Dimensions



### Accessories

NEW product 

### GZ14Z

Screw terminals  
 plug-in socket  
 with R15 4 C/O relay,  
**to be mounted behind**  
**the assembly panel.**

