



6 A / 250 V AC

• Relays of general application • Relays of general application • For plug-in sockets: 35 mm rail mount acc. to PN-EN 60715; on panel mounting; PCB mounting • For PCB and soldering connections - option • Miniature dimensions • Cadmium - free contacts • AC and DC coils • WT (mechanical indicator + lockable front test button) - standard features of relays for plug-in sockets. Relays may be provided with the test buttons (no latching) and plugs • Have obtained LR Type Approval Certificate (Lloyd's Register) - R4...WT • Recognitions, certifications, directives: RoHS, AUCOTEAM GmbH Berlin - railroad standard,



## Contact data

|  |             |  |
|--|-------------|--|
| Number and type of contacts                  |             | 4 CO   |
| Contact material                             |             | AgNi , AgNi/Au 0,2 µm, AgNi/Au 5 µm                                |
| Rated / max. switching voltage               | AC          | 250 V / 250 V  |
| Min. switching voltage                       |             | 10 V AgNi, 10 V AgNi/Au 0,2 µm, 5 V AgNi/Au 5 µm                   |
| Rated load (capacity)                        | AC 1        | 6 A / 250 V AC   |
|  | AC15        | 1,5 A / 120 V 0,75 A / 240 V (C300)                                |
|  | AC3         | 125 W (single-phase motor)   |
|  | DC1         | 6 A / 24 V DC (see Fig. 3)   |
|  | DC13        | 0,22 A / 120 V 0,1 A / 250 V (R300)                                |
| Min. switching current                       |             | 5 mA   |
| 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 µm, 0,1 W AgNi/Au 5 µm               |
| Contact resistance                           |             | ≤ 100 mΩ   |
| Max. operating frequency                     |             |  |
| • at rated load                              | AC 1        | 1 200 cycles/hour  |
| • no load                                    |             | 18 000 cycles/hour   |
| <b>Coil data</b>                             |             |  |
| 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 Tables 1, 2  |
| Rated power consumption                      | AC          | 1,6 VA   |
|  | DC          | 0,9 W  |
| <b>Insulation</b> according to PN-EN 60664-1 |             |  |
| Insulation rated voltage                     |             | 250 V AC   |
| Rated surge voltage                          |             | 2 500 V 1,2 / 50 µs  |
| Overvoltage category                         |             | II   |
| Insulation pollution degree                  |             | 2  |
| 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                                  |             | ≥ 1,6 mm   |
| • creepage                                   |             | ≥ 3,2 mm   |
| <b>General data</b>                          |             |  |
| Operating / release time (typical values)    |             | AC: 10 ms / 8 ms DC: 13 ms / 3 ms                                  |
| Electrical life                              |             |  |
| • resistive AC1                              |             | > 10 <sup>5</sup> 6 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 27,5 x 21,1 x 33,5 mm<br>27,5 x 21,2 x 33 mm |
| Weight                                       |             | 35 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                             | (NO/NC)     | 10 g / 5 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.

For plug-in sockets version: standard (WT)

For PCB version

For version with threaded bolt

Coil data - DC voltage version

Table 1

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

Table 2

| Coil code | Rated voltage<br>V AC | Coil resistance<br>at 20 °C<br>Ω | Acceptable<br>resistance | Coil operating range<br>V AC |                 |
|-----------|-----------------------|----------------------------------|--------------------------|------------------------------|-----------------|
|           |                       |                                  |                          | min. (at 20 °C)              | max. (at 55 °C) |
| 5006      | 6                     | 9,8                              | ± 10%                    | 4,8                          | 6,6             |
| 5012      | 12                    | 39,5                             | ± 10%                    | 9,6                          | 13,2            |
| 5024      | 24                    | 158,0                            | ± 10%                    | 19,2                         | 26,4            |
| 5042      | 42                    | 470,0                            | ± 10%                    | 33,6                         | 46,2            |
| 5048      | 48                    | 640,0                            | ± 10%                    | 38,4                         | 52,8            |
| 5060      | 60                    | 930,0                            | ± 10%                    | 48,0                         | 66,0            |
| 5080      | 80                    | 1 720,0                          | ± 10%                    | 64,0                         | 88,0            |
| 5110      | 110                   | 3 450,0                          | ± 10%                    | 88,0                         | 121,0           |
| 5115      | 115                   | 3 610,0                          | ± 10%                    | 92,0                         | 127,0           |
| 5120      | 120                   | 3 770,0                          | ± 10%                    | 96,0                         | 132,0           |
| 5127      | 127                   | 4 000,0                          | ± 10%                    | 101,6                        | 139,0           |
| 5220      | 220                   | 15 400,0                         | ± 10%                    | 176,0                        | 242,0           |
| 5230      | 230                   | 16 100,0                         | ± 10%                    | 184,0                        | 253,0           |
| 5240      | 240                   | 16 800,0                         | ± 10%                    | 192,0                        | 264,0           |

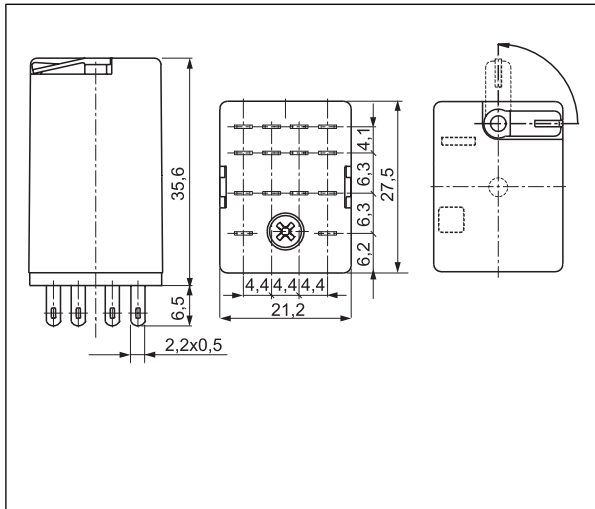
The data in bold type pertain to the standard versions of the relays.

EUROPRODUCT 2002  
 for electromagnetic relays  
 R2...WT , R3...WT , R4...WT  
 with sockets GZT2 , GZT3 , GZT4

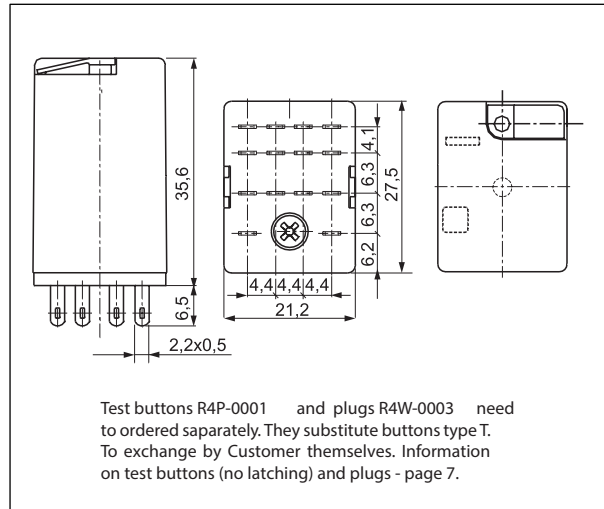
ELECTROPRODUCT 2003  
 for electromagnetic relays  
 R2 , R3 , R4



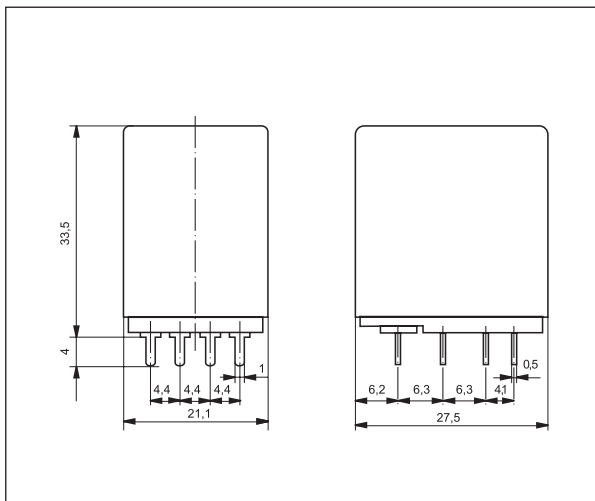
### Dimensions - plug-in version (WT), with lockable front test button type T



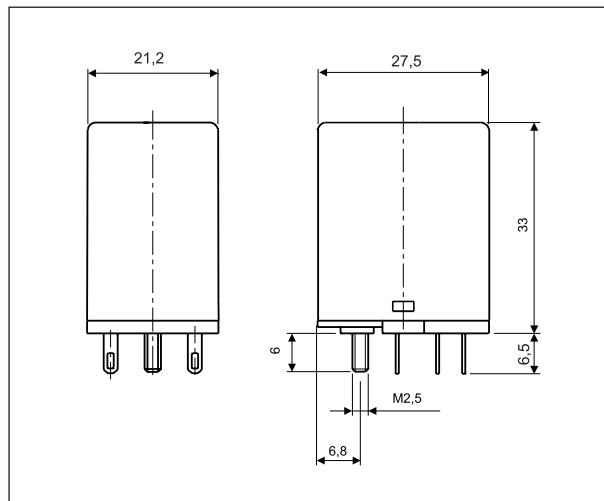
### Dimensions - plug-in version, with test button (no latching) or with plug (no manual operation)



### Dimensions - PCB version (without WT)



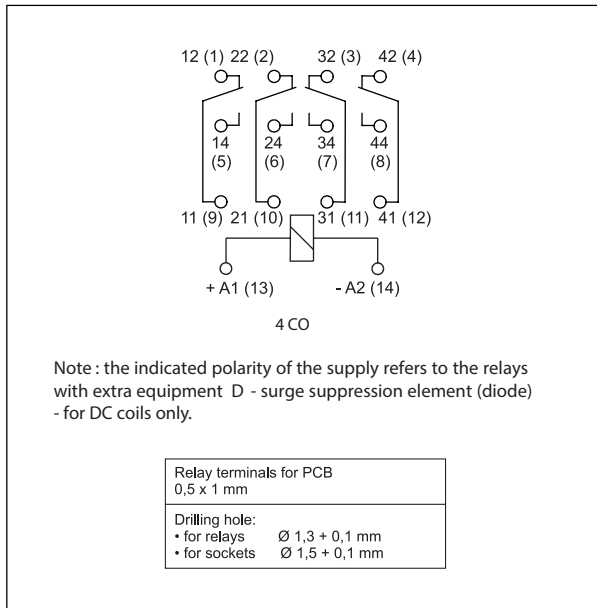
### Dimensions - version with threaded bolt



### Mounting

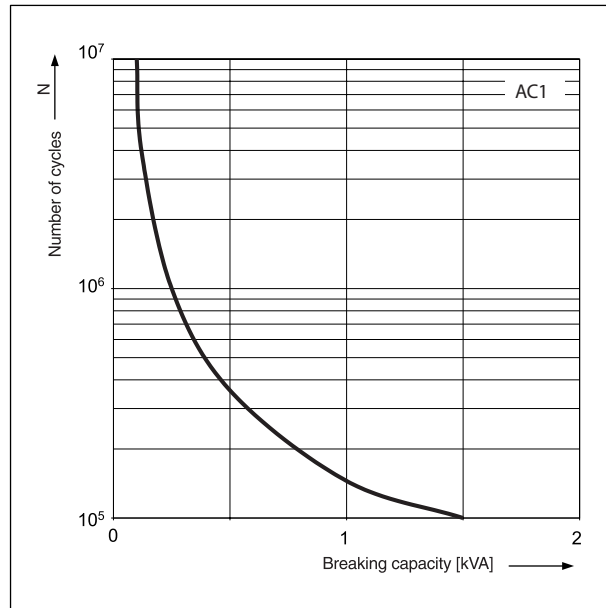
Relays R4 are offered in versions : • standard WT (mechanical indicator + lockable front test button), for plug-in sockets. In standard version of relays (WT) is possibility self-exchange of button type T for test button R4P-0001 (no latching) or plug R4W-0003 (no manual operation). Test buttons (no latching) and plugs need to ordered separately • for PCB (without WT) • with threaded bolt.

## Connection diagram (pin side view)



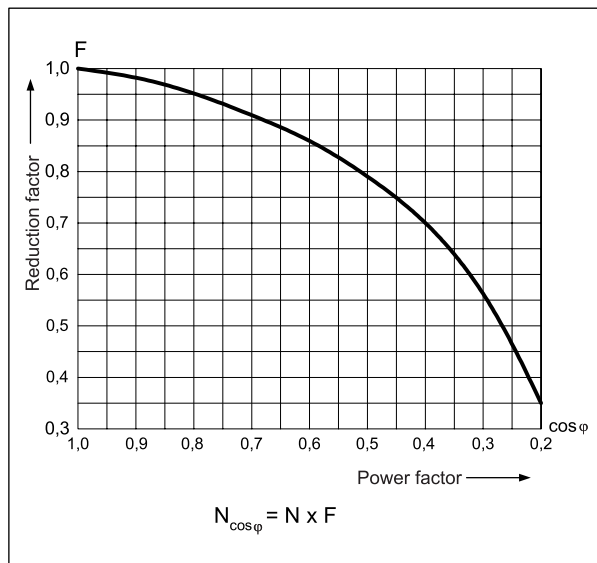
## Electrical life at AC resistive load. Switching frequency: 1 200 cycles/hour

Fig. 1



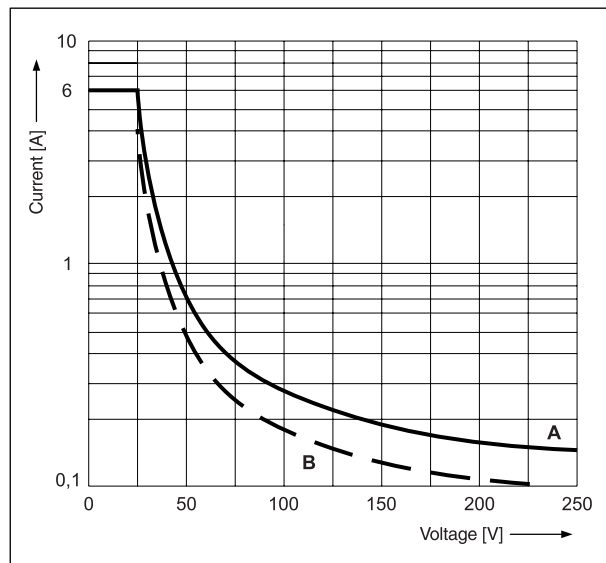
## Electrical life reduction factor at AC inductive load

Fig. 2



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

Fig. 3



## Mounting

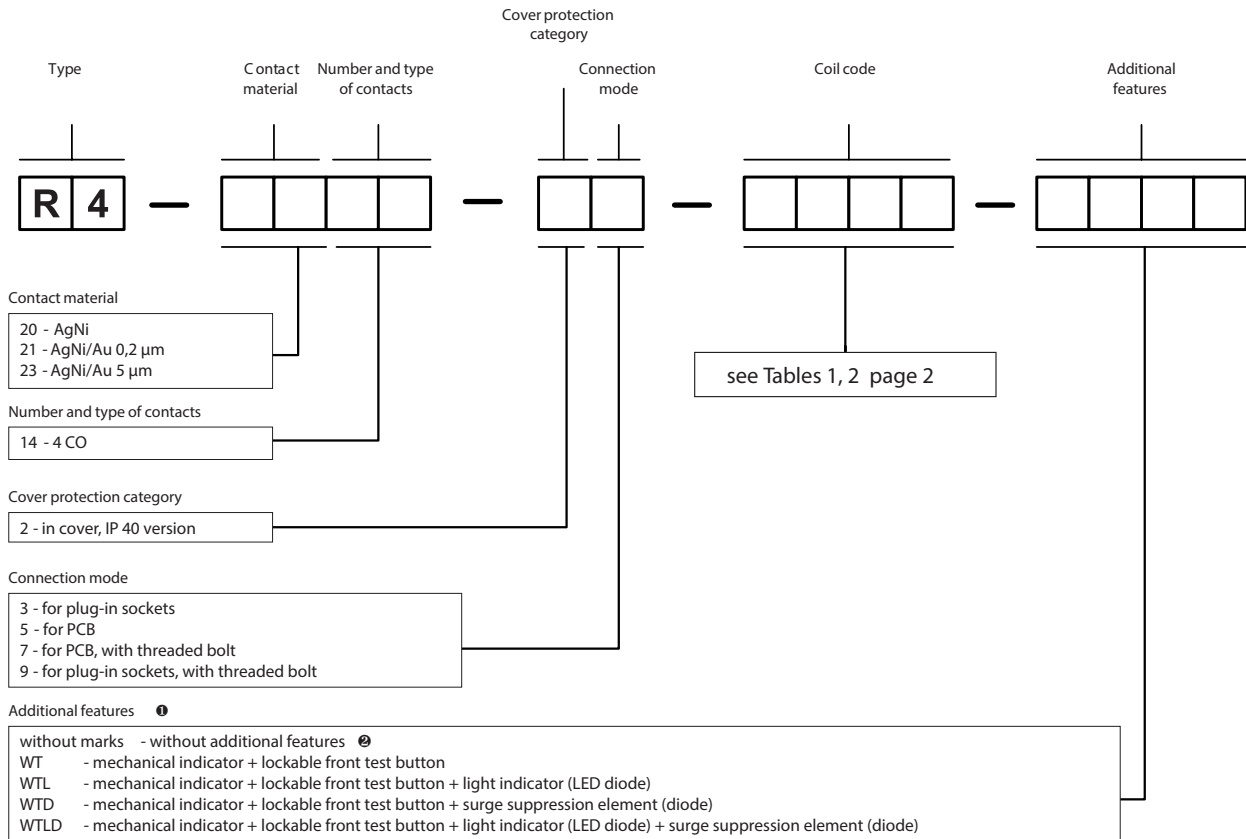
Relays R4 are designed for: • screw terminals plug-in sockets GZT4 ① and GZM4 ② with clip GZT4-0040 or G4 1052, 35 mm rail mount acc. to PN-EN 60715 or on panel mounting with two M3 screws. Signalling / protecting modules type M... are available with sockets • screw terminals plug-in sockets GZ4 with clip G4 1052 or plug-in sockets GS4 with clip GS4-0036, 35 mm rail mount acc. to PN-EN 60715 or on panel mounting with two M3 screws • plug-in sockets for PCB mounting SU4D with clip G4 1053 (WT) or G4 1050 (without WT) • solder terminals sockets SU4L with clip G4 1053 (WT) or G4 1050 (without WT) and spring clamp G4 1040 • solder terminals sockets G4 with clip G4 1053 (WT) or G4 1050 (without WT) • direct PCB mounting.

① Plug-in sockets GZT4 and GZM4 may be linked with interconnection strip type ZGGZ4.

## Contact material selection for different load types

- AgNi - for resistive or inductive loads,
- AgNi/Au 0,2 µm - Au protects the contact surface during storage,
- AgNi/Au 5 µm - 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 and with threaded bolt

Test buttons (no latching) and plugs need to be ordered separately. They substitute buttons type T. To exchange by Customer themselves. Information on test buttons (no latching) and plugs - page 7.

- 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 additional features D - surge suppression element (diode) (versions WTD and WTLD) - fixed supply polarity compulsory for the DC load of coils: +A1(13) / -A2(14). The polarity is indicated on the relay cover. For other versions of the relays with DC coils any polarity is possible.

### Example of ordering code:

R4-2014-23-5230-WTL relay R4, for plug-in sockets, four changeover contacts, contact material AgNi, coil voltage 230 V AC 50/60 Hz, with mechanical indicator and lockable front test button and light indicator (LED diode), in cover IP 40

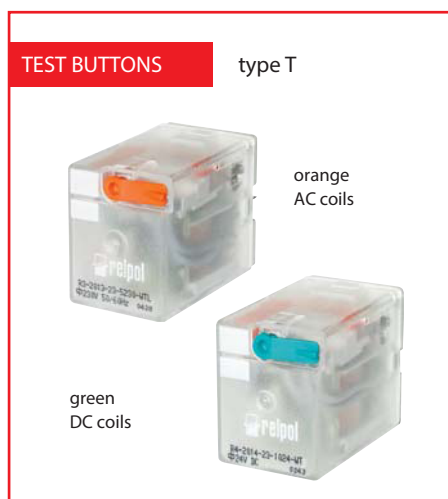
WT - mechanical indicator + lockable front test button  
 (basic features of standard industrial relays for plug-in sockets: R2, R3, R4, R15 - 2 CO, 3 CO).

Detailed information for individual relays: see "Ordering codes - Additional features".

| Type ❶ | Description  | For industrial relays                                     |
|--------|--|---|
| W      | mechanical indicator   | R2, R3, R4<br>R15 - 2 CO, 3 CO                            |
| T      | lockable front test button,<br>orange colour - AC coils, green colour - DC coils | R2, R3, R4<br>R15 - 2 CO, 3 CO                            |
| L      | light indicator (LED diode), located inside the relay                            | R2, R3, R4, RY2<br>R15 - 2 CO, 3 CO, 4 CO      RUC, RUC-M |
| D      | surge suppression element (diode)<br>- only for DC coils                         | R2, R3, R4, RY2<br>R15 - 2 CO, 3 CO, 4 CO                 |
| V      | surge suppression element (varistor)<br>- only for AC coils                      | R15 - 2 CO, 3 CO  |
| K      | test button without block function   | R15 - 4 CO      RUC                                       |

❶ Available combinations:

- WT, WTL, WTD, WTLD - in relays R2, R3, R4 for plug-in sockets
- L, D, LD - in relays RY2 for plug-in sockets
- WT, WTL, WTD, WTLD, WTV, WTLV - in relays R15 - 2 CO, 3 CO for plug-in sockets
- K, L, D, KL, KD, LD, KLD - in relays R15 - 4 CO for plug-in sockets
- K, L, KL - in relays RUC
- L - in relays RUC-M



Test buttons are recommended for R2...WT, R3...WT, R4...WT, R15...WT - 2 CO, 3 CO relays - for applications that do not allow permanent contact latching. By manual operation (pressing the button) relay contacts can get switched for as long time as long the button is pressed. Contacts return to initial position as soon as pressure is released from the button. Those operations can be done while the coil is deenergized.

Button R4P-0001 or R15-M404 can be easily inserted by the Customer after removal of button type T (see Fig. 2). Button type T can be removed with screwdriver as shown on Fig. 1.

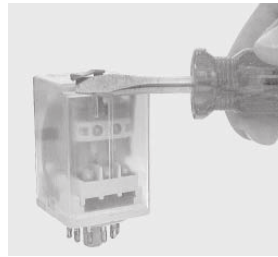


Fig. 1

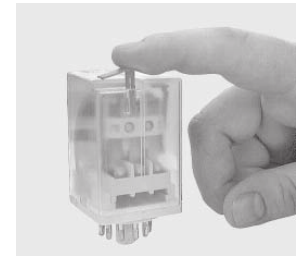
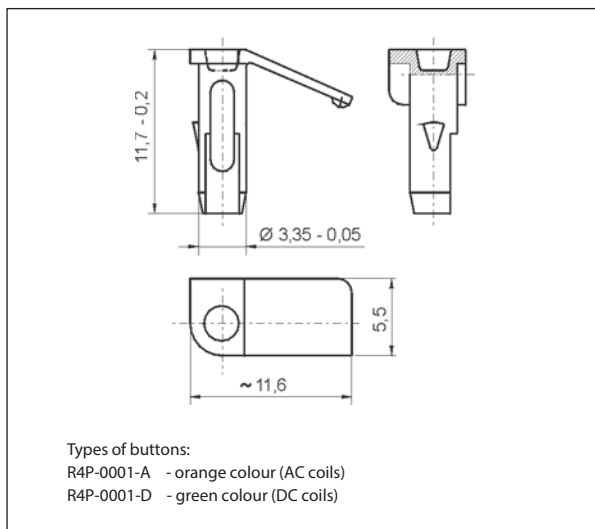
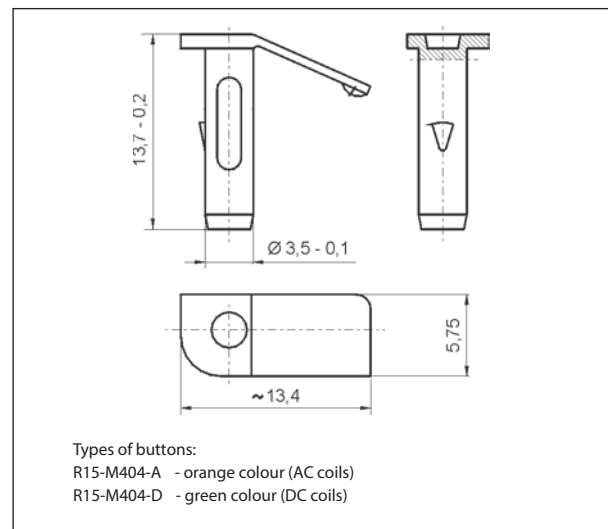


Fig. 2

Dimensions - test button R4P-0001 for relays R2...WT, R3...WT, R4...WT

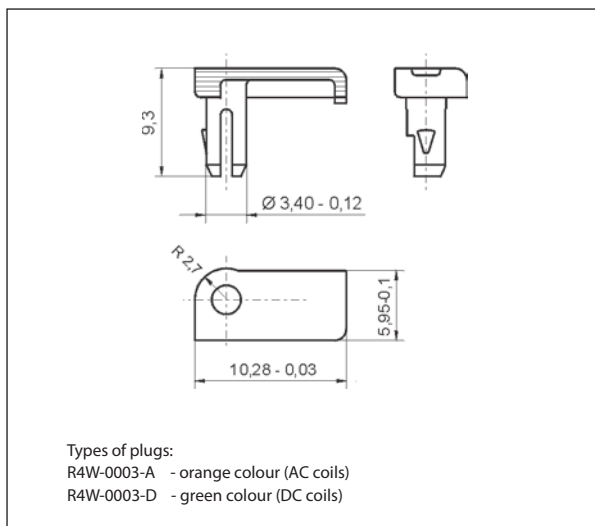


Dimensions - test button R15-M404 for relays R15...WT - 2 CO, 3 CO

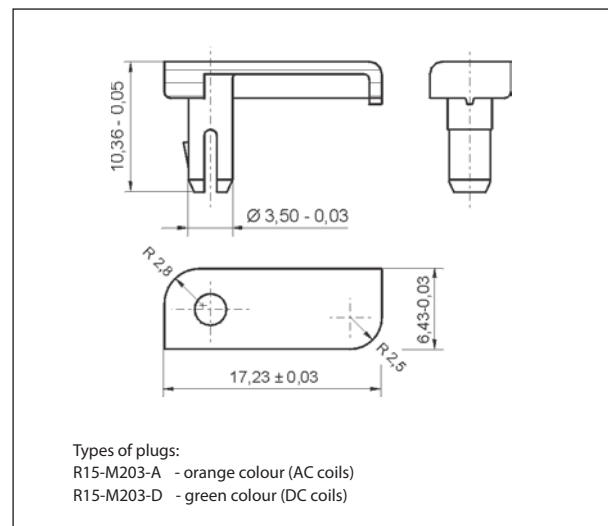


Plugs R4W-0003 or R15-M203 can substitute button type T if manual operation (latching and testing) is not allowed. Changing button type T for plug can be done by Customer themselves in the same way as changing button type T for button (no latching).

Dimensions - plug R4W-0003 for relays R2...WT, R3...WT, R4...WT



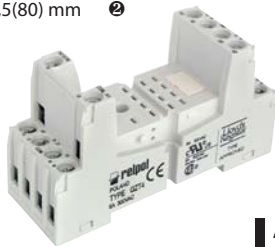
Dimensions - plug R15-M203 for relays R15...WT - 2 CO, 3 CO



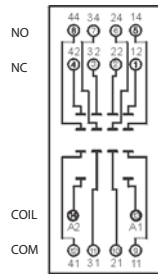
## GZT4 ⑤

For R4, T-R4

Screw terminals  
Max. tightening moment  
for the terminal: 0,7 Nm  
35 mm rail mount  
acc. to PN-EN 60715  
or on panel mounting  
76,3 x 27 x 42,5(80) mm  
Four poles  
6 A, 300 V AC



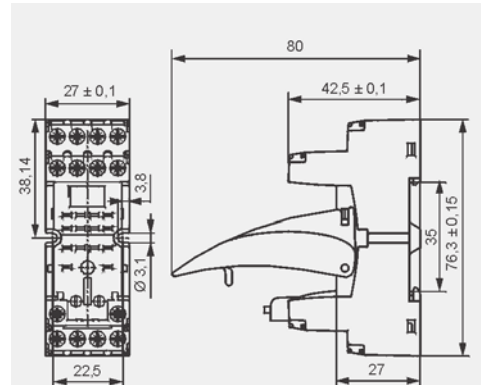
### Connection diagram



### Accessories ① ⑥

GZT4-0035 Module type M...

### Dimensions



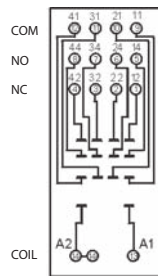
## GZM4

For R4, T-R4

Screw terminals  
Max. tightening moment  
for the terminal: 0,7 Nm  
35 mm rail mount  
acc. to PN-EN 60715  
or on panel mounting  
75 x 27 x 61(82) mm  
Four poles  
6 A, 300 V AC



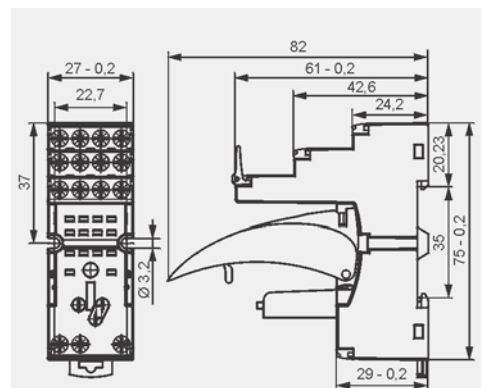
### Connection diagram



### Accessories ① ⑥

GZT4-0035 Module type M...

### Dimensions



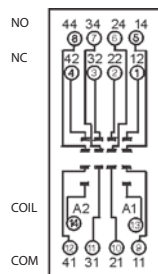
## GZ4

For R4

Screw terminals  
Max. tightening moment  
for the terminal: 0,7 Nm  
35 mm rail mount  
acc. to PN-EN 60715  
or on panel mounting  
66,4 x 29,5 x 29 mm  
Four poles  
10 A, 300 V AC



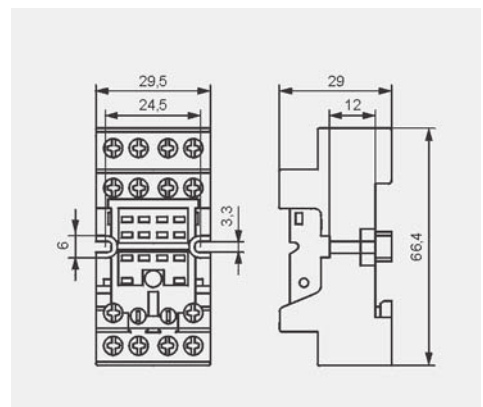
### Connection diagram



### Accessories

G4 1052

### Dimensions



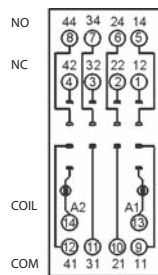
## GS4

For R4

Screw terminals  
Max. tightening moment  
for the terminal: 0,7 Nm  
35 mm rail mount  
acc. to PN-EN 60715  
or on panel mounting  
67 x 30,8 x 30(~63,7) mm  
Four poles  
6 A, 300 V AC



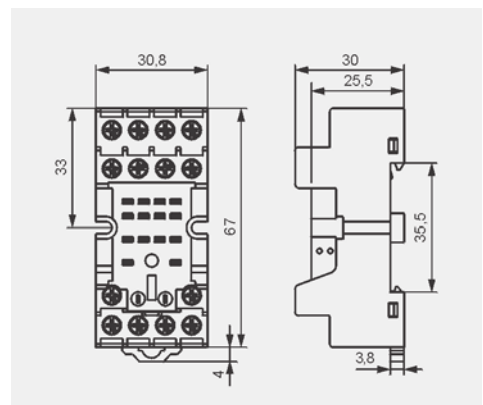
### Connection diagram



### Accessories

GS4-0036 GS4-0035

### Dimensions



① Mounting and sub-assemblies of accessories in the socket - see 10. ② In the bracket the height of socket with retainer / retractor clip is shown. ③ Have obtained LR Type Approval Certificate (Lloyd's Register). ④ For R4 relays: G4 1052, GZT4-0040, GZT4-0035, module type M...; for T-R4 relays: TR4-2000, GZT4-0035 ⑤ In the bracket the height of socket with spring wire clip is shown.

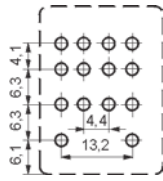


## SU4D

For R4  
 For PCB  
 29,6 x 21,5 x 11 mm  
 Four poles  
 6 A, 250 V AC

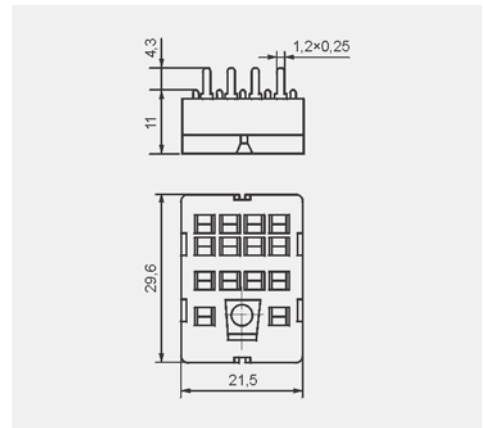


### Pinout



Accessories ④ G4 1053 G4 1050

### Dimensions

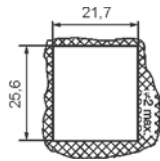


## SU4L

For R4  
 Solder terminals  
 29,6 x 21,5 x 18,1 mm  
 Four poles  
 6 A, 250 V AC

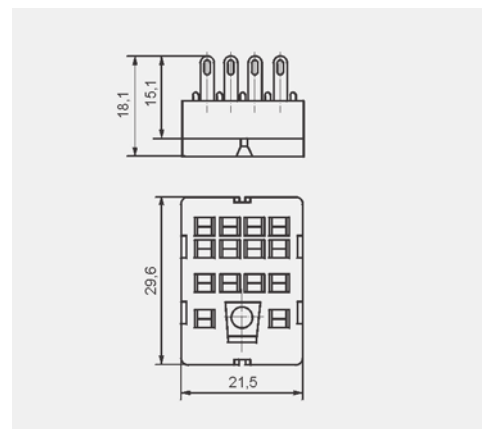


### Dimensions of opening on panel mounting



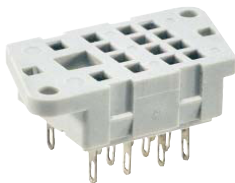
Accessories ④ G4 1053 G4 1050 G4 1040

### Dimensions

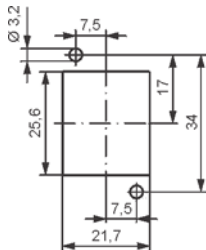


## G4

For R4  
 Solder terminals  
 40,5 x 21,5 x 18,1 mm  
 Four poles  
 6 A, 250 V AC

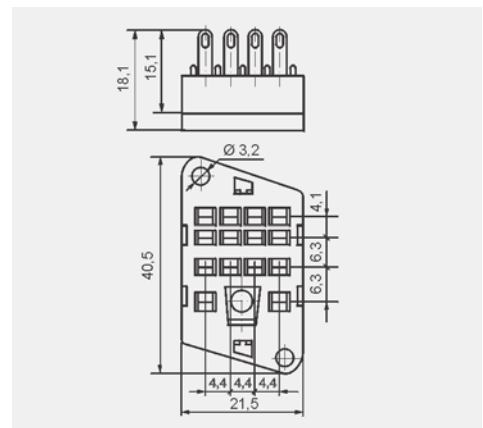


### Pinout of openings on panel mounting



Accessories ④ G4 1053 G4 1050

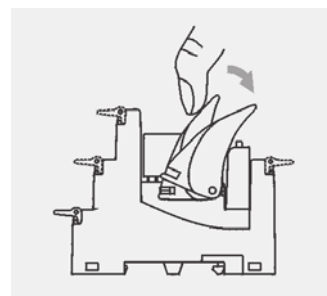
### Dimensions



④ G4 1053 - for R2...WT, R4...WT relays; G4 1050 - for R2, R4 without WT

Signalling / protecting module  
 type M...

Electromagnetic  
 relay

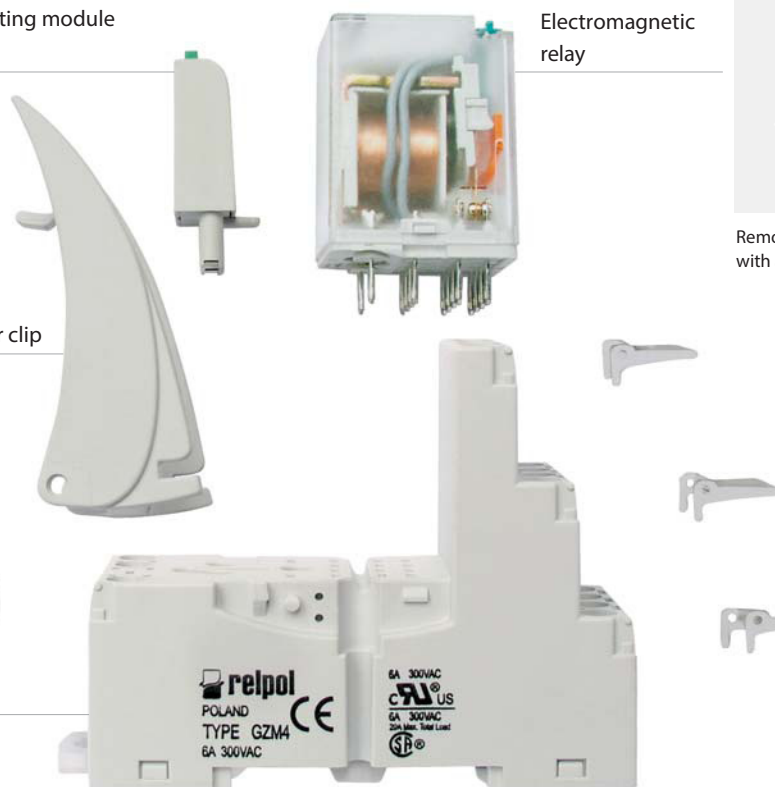


Removing the relay from the socket  
 with a retractor / retractor clip

Retainer / retractor clip

Screw terminals  
 plug-in socket

Description plate

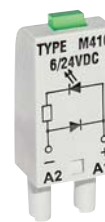


## Accessories

| Type of plug-in socket     | GZT80, GZT92, GZM80, GZM92   | GZS80, GZS92   | ES 32        | GZT2, GZT3, GZT4, GZM2, GZM3, GZM4 |
|----------------------------|--|--|--------------|------------------------------------|
| Retainer / retractor clips |  |  |              |                                    |
| Type                       | GZT80-0040   | GZS-0040   | MS16         | GZT4-0040                          |
| Colour                     | gray   | black  | black        | gray                               |
| Description plates         |  |  |              |                                    |
| Type                       | GZT80-0035   | TR   | TR           | GZT4-0035                          |
| Colour                     | white  | white  | white        | white                              |
| For relays                 | RM84, RM85, RM85 inrush, RM85 105 °C sensitive, RM87, RM87 sensitive | RM84, RM85, RM85 inrush, RM85 105 °C sensitive, RM87, RM87 sensitive | RM96 1 CO    | R2, R3, R4                         |
| Height of relay            | 15...16,5 mm   | 15...16,5 mm   | 15...16,5 mm | 35,6 mm                            |

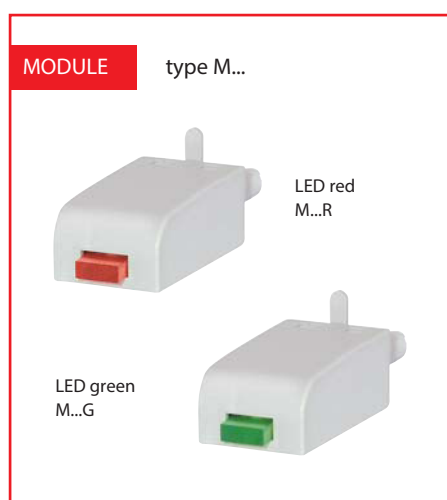
For sockets type: GZT80, GZT92, GZM80, GZM92, GZS80, GZS92, ES 32,  
 GZT2, GZT3, GZT4, GZM2, GZM3, GZM4

Modules type M... are parallelly connected with relay coil.  
 Polarity P: -A1/+A2. Polarity N: +A1/-A2.



| Modules type M...   | Layout | Layout   | Type of module ⓘ                       |
|---|--------|--|--|
| Module D (polarization P)<br>It limits overvoltage on DC coils.                                 |        | 6/230 V DC                                       | M21P                                   |
| Module D (polarization N)<br>It limits overvoltage on DC coils.                                 |        | 6/230 V DC                                       | M21N                                   |
| Module LD (polarization P)<br>It limits overvoltage on DC coils.<br>Coil energizing indication. |        | 6/24 V DC<br>24/60 V DC<br>110/230 V DC          | M31R, M31G<br>M32R, M32G<br>M33R, M33G |
| Module LD (polarization N)<br>It limits overvoltage on DC coils.<br>Coil energizing indication. |        | 6/24 V DC<br>24/60 V DC<br>110/230 V DC          | M41R, M41G<br>M42R, M42G<br>M43R, M43G |
| Module RC<br>It protects against EMC disturbance.<br>It limits overvoltage.                     |        | 6/24 V AC<br>24/60 V AC<br>110/240 V AC          | M51<br>M52<br>M53                      |
| Module L<br>Coil energizing indication.   |        | 6/24 V AC/DC<br>24/60 V AC/DC<br>110/230 V AC/DC | M61R, M61G<br>M62R, M62G<br>M63R, M63G |
| Module LV<br>It limits overvoltage on AC and DC coils.<br>Coil energizing indication.           |        | 6/24 V AC/DC<br>24/60 V AC/DC<br>110/230 V AC/DC | M91R, M91G<br>M92R, M92G<br>M93R, M93G |
| Module V<br>It limits overvoltage on AC and DC coils.<br>No indication.                         |        | 24 V AC<br>130 V AC<br>230 V AC                  | M71<br>M72<br>M73                      |
| Module R<br>It limits overvoltage on AC coils.  |        | 110/230 V AC                                     | M103                                   |

ⓘ M...R - LED red, M...G - LED green





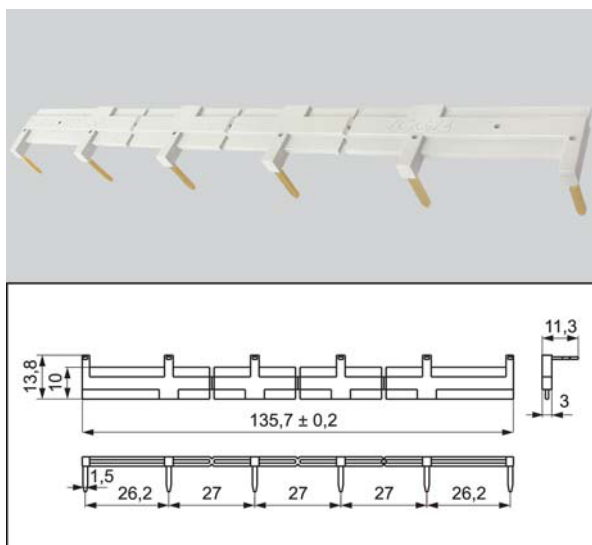
## ZGGZ4 for:

| Plug-in sockets | Relays for plug-in sockets | Interface relays               |
|-----------------|----------------------------|--------------------------------|
| GZT2            | R2...WT                    | PIR2-...-00L. (GZM2 + R2...WT) |
| GZM2            |                            | PIR3-...-00L. (GZM3 + R3...WT) |
| GZT3            | R3...WT                    | PIR4-...-00L. (GZM4 + R4...WT) |
| GZM3            |                            |                                |
| GZT4            | R4...WT                    |                                |
| GZM4            |                            |                                |

⊕ Interface relay PIR2 (PIR3, PIR4) is offered as a set: plug-in socket GZM2 (GZM3, GZM4) + miniature industrial relay R2 (R3, R4) + signalling / protecting module type M... + retainer / retractor clip GZT4-0040 + description plate GZT4-0035.

## Interconnection strip ZGGZ4

- designed for the co-operation with plug-in sockets of miniature industrial relays and with interface relays PIR2, PIR3 and PIR4, which are equipped with screw terminals; sockets and relays are mounted on 35 mm rail mount acc. to PN-EN 60715,
- bridges common input signals (coil terminals A1 or A2) or output signals - see photo at the top,
- maximum permissible current is 10 A / 250 V AC,
- possibility of connection of 6 sockets or relays,
- colours of strips: ZGGZ4-1 grey, ZGGZ4-2 black.



Компания «Life Electronics» занимается поставками электронных компонентов импортного и отечественного производства от производителей и со складов крупных дистрибьюторов Европы, Америки и Азии.

С конца 2013 года компания активно расширяет линейку поставок компонентов по направлению коаксиальный кабель, кварцевые генераторы и конденсаторы (керамические, пленочные, электролитические), за счёт заключения дистрибьюторских договоров

Мы предлагаем:

- Конкурентоспособные цены и скидки постоянным клиентам.
- Специальные условия для постоянных клиентов.
- Подбор аналогов.
- Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.
- Приемлемые сроки поставки, возможна ускоренная поставка.
- Доставку товара в любую точку России и стран СНГ.
- Комплексную поставку.
- Работу по проектам и поставку образцов.
- Формирование склада под заказчика.
- Сертификаты соответствия на поставляемую продукцию (по желанию клиента).
- Тестирование поставляемой продукции.
- Поставку компонентов, требующих военную и космическую приемку.
- Входной контроль качества.
- Наличие сертификата ISO.

В составе нашей компании организован Конструкторский отдел, призванный помогать разработчикам, и инженерам.

Конструкторский отдел помогает осуществить:

- Регистрацию проекта у производителя компонентов.
- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
- Оценку стоимости проекта по компонентам.
- Изготовление тестовой платы монтаж и пусконаладочные работы.



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