**RS35**

**RS50**

- **Relays to control power in photovoltaic systems which generate electric energy**
- Max. switching current: 35 A (version RS35); 50 A (version RS50)
- 5000 V / 10 mm reinforced insulation • Contact gap: RS35 ≥ 2,2 mm; RS50 ≥ 1,85 mm • Holding power 0,1 W
- For PCB • DC coils, insulation class F: 155 °C • Reinforced insulation, acc. EN 60730-1 (VDE 0631, part 1); EN 60335-1 (VDE 0700, part 1)
- Recognitions, certifications, directives: RoHS, c**RU**us, D'E, EAC

## Contact data

| | | | |
|---|---|---|---|
| Number and type of contacts | | 2 NO | |
| Contact material | | **AgSnO$_2$** | |
| Rated / max. switching voltage | AC | 250 V / 440 V | |
| Min. switching voltage | | 10 V | |
| Rated load | AC1 | RS35: 35 A / 250 V AC | RS50: 48 A / 250 V AC |
| | DC1 | RS35: 35 A / 24 V DC | RS50: 48 A / 24 V DC |
| Min. switching current | | 10 mA | 10 mA |
| Rated current | | RS35: 35 A | RS50: 50 A |
| Max. breaking capacity | AC1 | RS35: 8 750 VA | RS50: 12 500 VA |
| | DC1 | RS35: 90 W   0,3 A / 300 V | RS50: 90 W   0,3 A / 300 V |
| Min. breaking capacity | | 1 W | |
| Contact resistance | | ≤ 50 mΩ | |
| Max. operating frequency | | | |
| • at rated load | AC1 | 360 cycles/hour | |
| • no load | | 3 600 cycles/hour | |

## Coil data

| | | |
|---|---|---|
| Rated voltage | DC | 5, 9, 12, 18, 24, 110 V |
| Must release voltage | | DC: ≥ 0,05 $U_n$ |
| Operating range of supply voltage | | 0,75...2,0 $U_n$     see Table 1 |
| Rated power consumption | DC | 0,48 W |
| Power consumption at pickup voltage | | 0,3 W |
| Max. continuous dissipation | | 1,9 W     20 °C |

## Insulation according to EN 60664-1

| | |
|---|---|
| Insulation rated voltage | 250 V AC |
| Rated surge voltage | 6 000 V   1,2 / 50 µs |
| Overvoltage category | III |
| Insulation pollution degree | 3 |
| Insulation resistance | 1000 MΩ |
| Dielectric strength | |
| • between coil and contacts | 5 000 V AC     type of insulation: reinforced |
| • contact clearance | 2 500 V AC     type of clearance: full-disconnection |
| • pole - pole | 2 500 V AC     type of insulation: basic |
| Contact - coil distance | |
| • clearance | ≥ 10 mm |
| • creepage | ≥ 10 mm |

## General data

| | |
|---|---|
| Operating / release time (typical values) | 40 ms / 3 ms |
| Electrical life | |
| • resistive AC1 | 5 x 10$^4$     RS35, 35 A, 250 V AC, 20 °C |
| | 3 x 10$^4$     RS50, 50 A, 250 V AC, 20 °C |
| • AC7a | 3 x 10$^4$     RS35, 35 A, 263 V AC, 85 °C  (VDE) |
| | 1,5 x 10$^4$     RS50, 50 A, 263 V AC, 85 °C  (VDE) |
| Mechanical life (cycles) | 10$^6$ |
| Dimensions (L x W x H) | 40 x 25 x 49,2 mm |
| Weight | 105 g |
| Ambient temperature     • storage | -40...+105 ºC |
| (non-condensation and/or icing)     • operating | -40...+85 ºC |
| Cover protection category | IP 40     EN 60529 |
| Environmental protection | RTI     EN 61810-7 |
| Shock resistance | 10 g |
| Vibration resistance | 1,5 mm DA (constant amplitude)     10...55 Hz |
| Solder bath temperature | max. 270 ºC |
| Soldering time | max. 5 s |

The data in bold type relate to the standard versions of the relays.
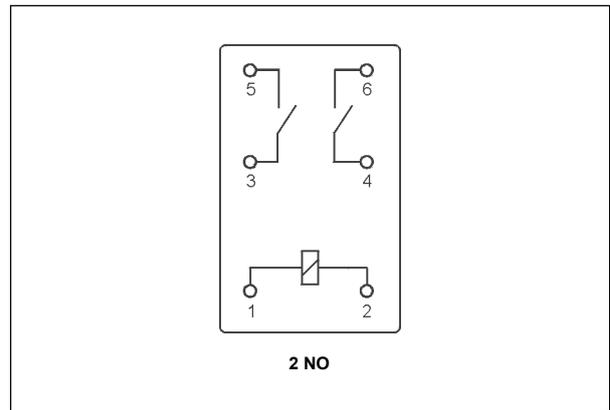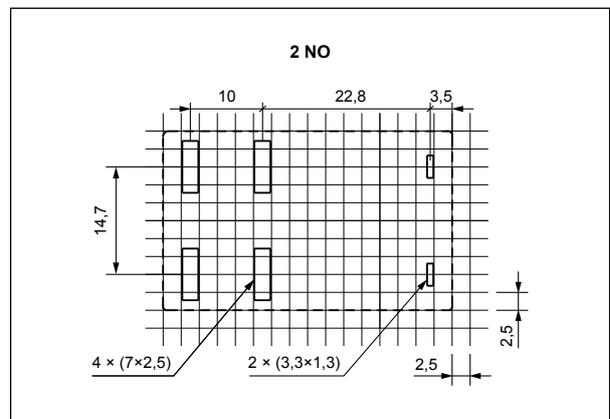
## Dimensions
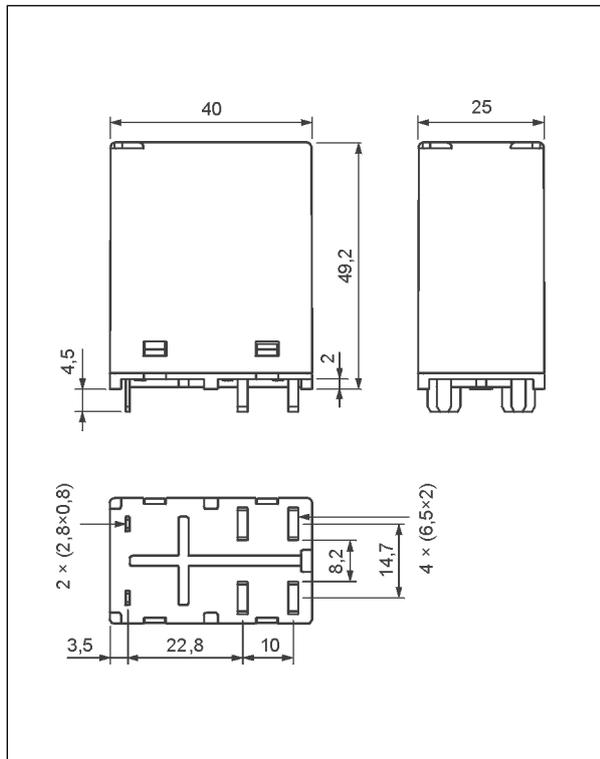


## Mounting

Relays **RS35**, **RS50** are designed for direct PCB mounting.

## Connection diagrams (pin side view)



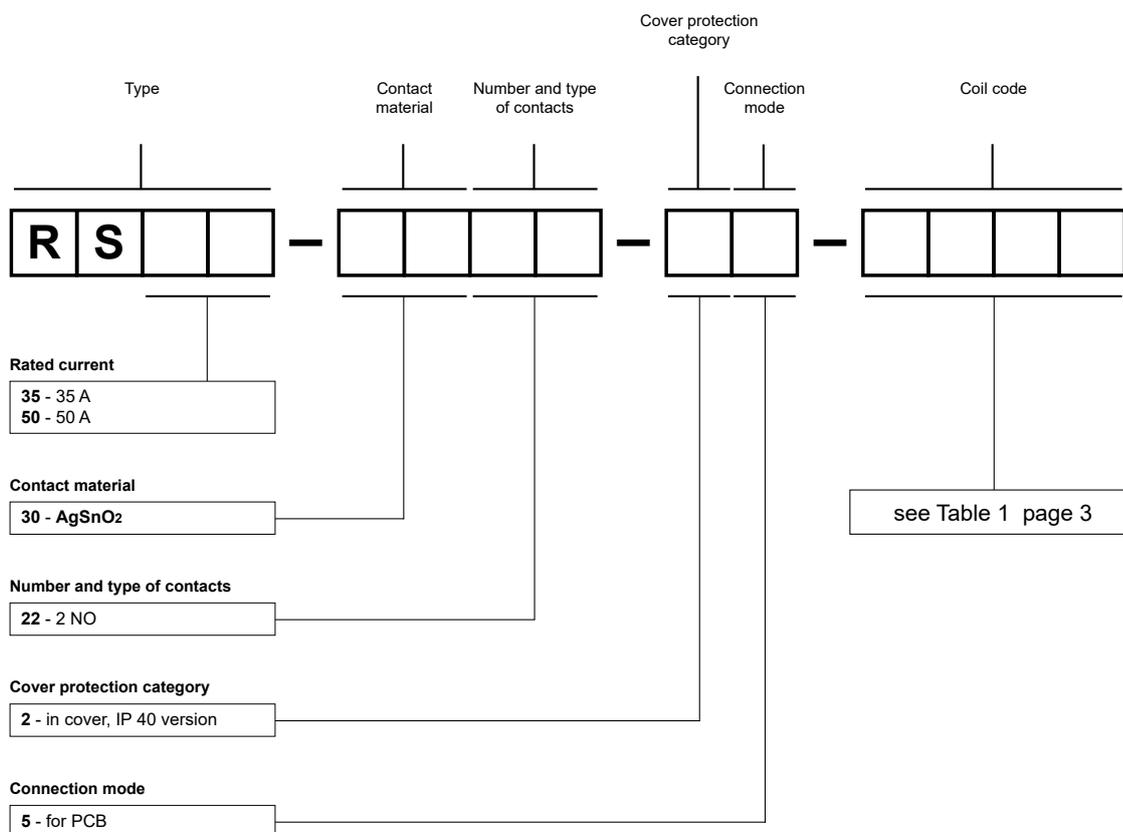**2 NO**

## Pinout (solder side view)



**2 NO**

## **Coil data** - DC voltage version                                    Table 1

| Coil code | Rated voltage V DC | Coil resistance at 20 °C Ω | Acceptable resistance | Coil operating range V DC | |
|---|---|---|---|---|---|
| | | | | min. (at 20 °C) | max. (at 55 °C) |
| 1005 | 5 | 50 | ± 10% | 3,75 | 10 |
| 1009 | 9 | 170 | ± 10% | 6,75 | 18 |
| 1012 | 12 | 300 | ± 10% | 9,00 | 24 |
| 1018 | 18 | 675 | ± 10% | 13,50 | 36 |
| 1024 | 24 | 1 200 | ± 10% | 18,00 | 48 |
| 1110 | 110 | 25 000 | ± 10% | 82,50 | 220 |

## **Ordering codes**

Cover protection category

Type    Contact material    Number and type of contacts    Connection mode    Coil code

```
R  S  □  □  —  □  □  □  □  —  □  □  —  □  □  □  □
```

**Rated current**
**35** - 35 A
**50** - 50 A

**Contact material**
**30 - AgSnO2**

**Number and type of contacts**
**22** - 2 NO

**Cover protection category**
**2** - in cover, IP 40 version

**Connection mode**
**5** - for PCB

see Table 1  page 3

Examples of ordering code:

**RS35-3022-25-1005**     relay **RS35**, rated current 35 A, for PCB,  two normally open contacts, contact material AgSnO2, coil voltage 5 V DC, in cover IP 40

**RS50-3022-25-1110**     relay **RS50**, rated current 50 A, for PCB, two normally open contacts, contact material AgSnO2, coil voltage 110 V DC, in cover IP 40

22.02.2018

3

www.relpol.com.pl    **Export Sales Department** phone +48 68 47 90 832, 951 • e-mail: export@relpol.com.pl    relpol S.A.