

RS35, RS50

industrial relays for solar systems



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 \geq 2,2 mm; RS50 \geq 1,85 mm • Holding power 0,1 W
- For PCB • DC coils • Reinforced insulation, acc. PN-EN 60730-1 (VDE 0631, part 1); PN-EN 60335-1 (VDE 0700, part 1)
- Recognitions, certifications, directives: RoHS,

Contact data

| | | |
|--|---|---|
| Number and type of contacts | 2 NO | |
| Contact material | AgSnO₂ | |
| Rated / max. switching voltage | AC | 250 V / 440 V |
| Min. switching voltage | | 10 V |
| Rated load | AC1 DC1 | RS35: 35 A / 250 V AC RS35: 35 A / 24 V DC |
| | | RS50: 48 A / 250 V AC RS50: 48 A / 24 V DC |
| Min. switching current | | 10 mA |
| Rated current | | RS35: 35 A |
| | | RS50: 50 A |
| Max. breaking capacity | AC1 DC1 | RS35: 8 750 VA RS35: 90 W 0,3 A / 300 V |
| | | RS50: 12 500 VA RS50: 90 W 0,3 A / 300 V |
| Min. breaking capacity | | 1 W |
| Contact resistance | | \leq 50 m Ω |
| Max. operating frequency | AC1 | 360 cycles/hour |
| • at rated load | | 3 600 cycles/hour |
| • no load | | |
| Coil data | | |
| Rated voltage | DC | 5 ... 110 V |
| Must release voltage | | DC: \geq 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 PN-EN 60664-1 | | |
| Insulation rated voltage | | 250 V AC |
| Rated surge voltage | | 6 000 V 1,2 / 50 μ s |
| Overvoltage category | | III |
| Insulation pollution degree | | 3 |
| Insulation resistance | | 1000 M Ω |
| 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 | | \geq 10 mm |
| • creepage | | \geq 10 mm |
| General data | | |
| Operating / release time (typical values) | | 40 ms / 5 ms |
| Electrical life | | |
| • resistive AC1 | 3 x 10 ⁴ 35 A, 250 V AC, 20 °C | 10 ⁴ 50 A, 250 V AC, 20 °C |
| • AC7a | 3 x 10 ⁴ 35 A, 250 V AC, 20 °C | 3 x 10 ⁴ 50 A, 250 V AC, 20 °C |
| Mechanical life (cycles) | | 10 ⁶ |
| Dimensions (L x W x H) | | 40 x 25 x 49,2 mm |
| Weight | | 105 g |
| Ambient temperature | • storage • operating | -40...+105 °C -40...+85 °C |
| Cover protection category | | IP 40 PN-EN 60529 |
| Environmental protection | | RTI PN-EN 116000-3 |
| Shock resistance | | 10 g |
| Vibration resistance | | 1,5 mm DA (constant amplitude) 10...55 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.

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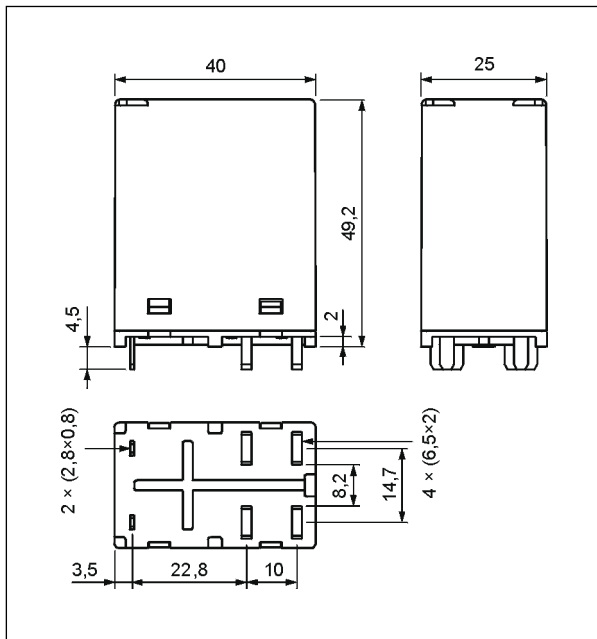
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Coil data - DC voltage version

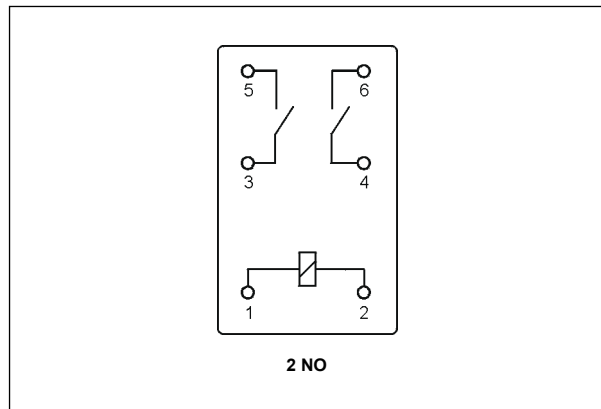
Table 1

| 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 |

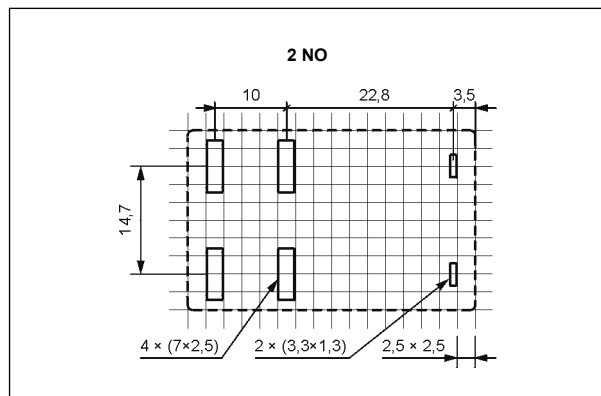
Dimensions



Connection diagrams (pin side view)



Pinout (solder side view)



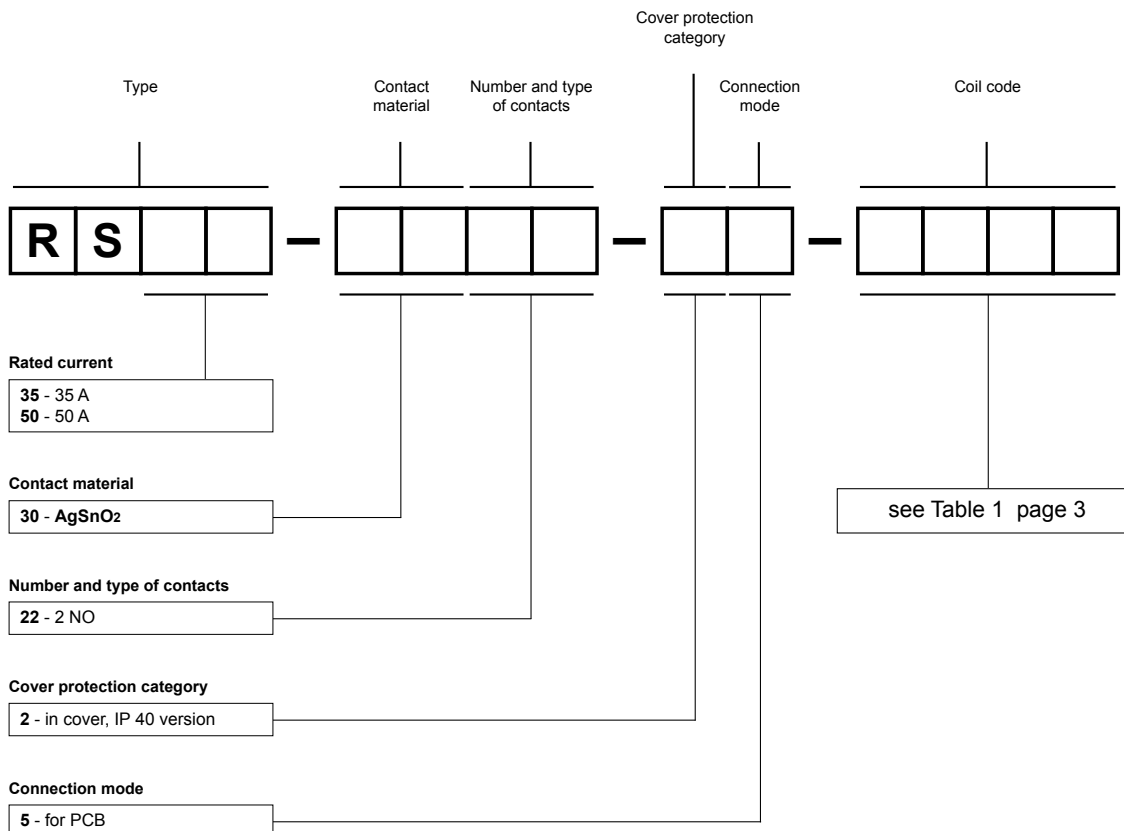
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Mounting

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

Ordering codes



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

PRECAUTIONS:

1. Ensure that the parameters of the product described in its specification provide a safety margin for the appropriate operation of the device or system and never use the product in circumstances which exceed the parameters of the product. 2. Never touch any live parts of the device. 3. Ensure that the product has been connected correctly. An incorrect connection may cause malfunction, excessive heating or risk of fire. 4. In case of any risk of any serious material loss or death or injuries of humans or animals, the devices or systems shall be designed so to equip them with double safety system to guarantee their reliable operation.