NEW

- **Relays for photovoltaic systems, solar inverters, power supplies and UPS**
- Max. switching current: 90 A
- Contact gap: ≥ 4 mm
- DC coils, insulation class F: 155 °C
- For PCB
- Compliance with standards: IEC 62109, VDE 0126
- Recognitions, certifications, directives: RoHS,

Contact data

Number and type of contacts		1 NO
Contact material		**$AgSnO_2$**
Rated / max. switching voltage	AC	1 000 V / 1 000 V
Rated load	AC1	90 A / 1 000 V AC
Max. make current		100 A
Rated current		90 A
Max. breaking capacity	AC1	100 000 VA
Contact resistance		≤ 10 mΩ
Max. operating frequency • at rated load AC1 • no load		 360 cycles/hour 7 200 cycles/hour

Coil data

Rated voltage	DC	12, 24 V
Must release voltage		DC: ≥ 0,05 U_n
Operating range of supply voltage		0,75...1,1 U_n see Table 1
Rated power consumption	DC	1,92 W

Insulation according to EN 60664-1

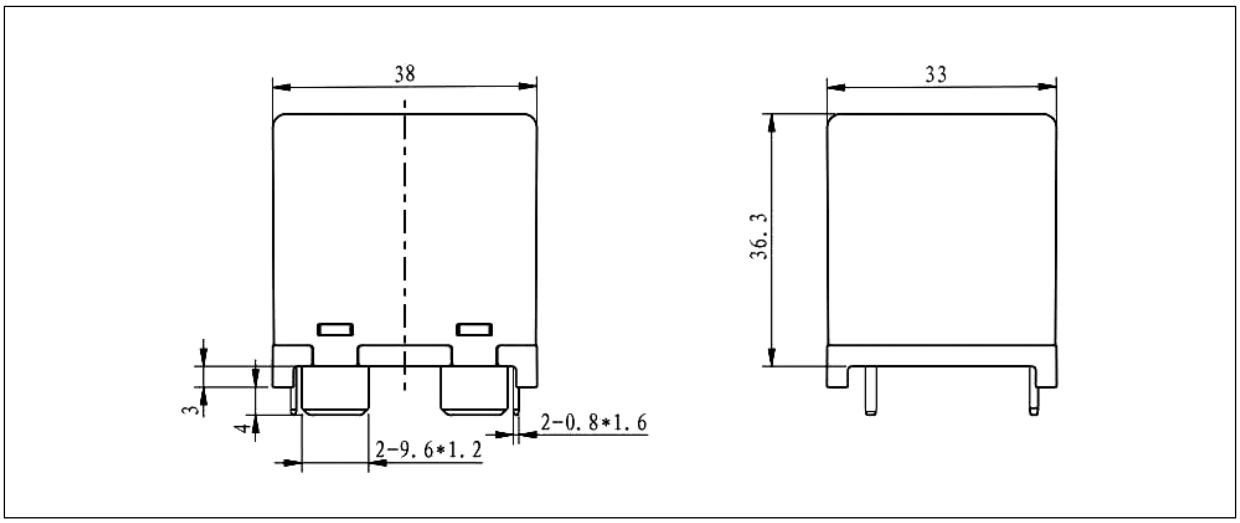
Insulation pollution degree		2
Insulation resistance		> 1 000 MΩ 500 V DC
Dielectric strength • between coil and contacts • contact clearance		 5 000 V AC 50/60 Hz, 1 min. 2 000 V AC 50/60 Hz, 1 min.

General data

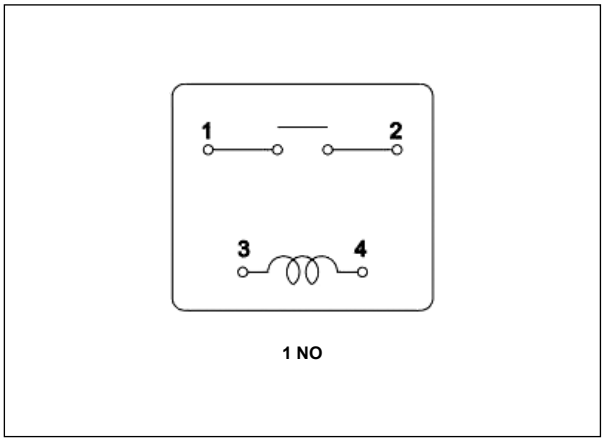
Operating / release time (typical values)		30 ms / 10 ms
Electrical life • resistive AC1	360 cycles/hour	 3×10^4 30 A make/break, 100 A carry, 1 000 V AC, 85 °C 10^3 90 A, 320 V AC, 85 °C
Mechanical life (cykle)	9 000 cycles/hour	10^6
Dimensions (L x W x H)		38 x 33 x 36,3 mm
Weight		82 g
Ambient temperature (non-condensation and/or icing)	• operating	-40...+85 °C
Cover protection		flux proof
Shock resistance		> 10 g
Vibration resistance		1,5 mm DA 10...55 Hz

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

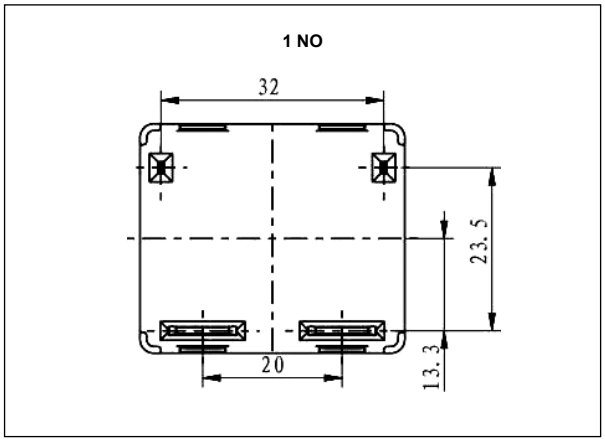
Dimensions ❶



Connection diagrams (pin side view)



Pinout (solder side view) ❷



Mounting

Relays **R90A** are designed for direct PCB mounting ❸.

❶ The dimension of pin is the size before tinning.
❷ Tolerance of PCB layout: ±0,2 mm (for dimensions < 1 mm), ±0,3 mm (for dimensions 1...5 mm), ±0,4 mm (for dimensions > 5 mm).
❸ An appropriate cross-section of the PCB must be provided in accordance with design standards, to ensure proper heat dissipation from the contact pins under load.

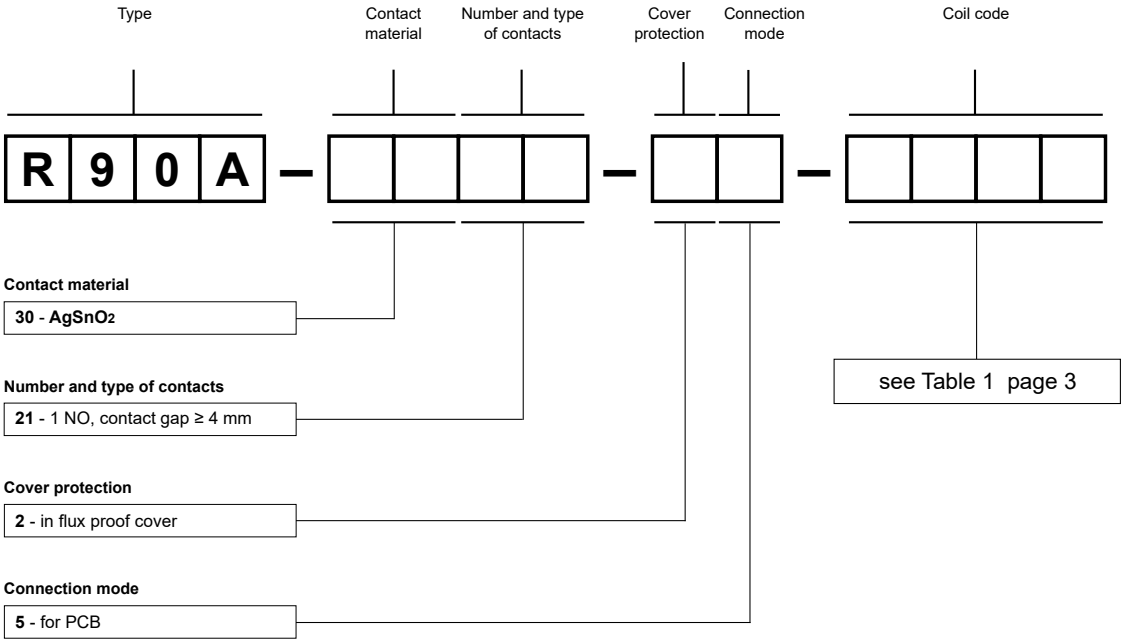
Coil data - DC voltage version

Table 1

Coil code	Rated voltage V DC ❹	Coil resistance at 20 °C Ω	Acceptable resistance	Coil operating range V DC	
				min. (at 20 °C)	max. (at 20 °C)
1012	12	75	± 10%	9,00	13,2
1024	24	300	± 10%	18,00	26,4

❹ The relay applies full coil voltage to maintain 200 ms. Coil holding voltage can be reduced to 50...75% of the rated coil voltage to achieve energy saving after applying 200 ms rated coil voltage. The relay coil is not allowed to apply more than the upper limit of the rated voltage for a long time to prevent the relay from overheating and burning out.

Ordering codes



Examples of ordering codes:

R90A-3021-25-1012 relay **R90A**, for PCB, one normally open contact, with contact gap ≥ 4 mm, contact material $AgSnO_2$, coil voltage 12 V DC, in flux proof cover

R90A-3021-25-1024 relay **R90A**, for PCB, one normally open contact, with contact gap ≥ 4 mm, contact material $AgSnO_2$, coil voltage 24 V DC, in flux proof cover

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.