

# R20

## industrial relays of small dimensions



- High switching capacity up to 30 A
- „Bridge” type contacts which open the circuit with double break
- Flat insert connectors - faston faston 250 (6,3 x 0,8 mm)
- High resistance to interference • High strength of insulation
- Applications: household equipment; air-conditioning and ventilation systems; audio equipment; control devices; automation systems; photoelectric systems; etc.
- Recognitions, certifications, directives: RoHS,

### Contact data

|                                |                            |  |
|--------------------------------|----------------------------|--|
| Number and type of contacts    | 1 NO, 2 NO                 |  |
| Contact material               | <b>AgSnO<sub>2</sub></b>   |  |
| Rated / max. switching voltage | AC                         | 250 V / 440 V                                    |
| Min. switching voltage         | 10 V                       |  |
| Rated load                     | AC1                        | 1 NO: 30 A / 250 V AC      2 NO: 25 A / 250 V AC |
| Min. switching current         | 10 mA                      |  |
| Rated current                  | 1 NO: 30 A      2 NO: 25 A |  |
| Max. breaking capacity         | AC1                        | 1 NO: 7 000 VA      2 NO: 6 250 VA               |
| Min. breaking capacity         | 0,1 W                      |  |
| Contact resistance             | ≤ 100 mΩ                   |  |

### Coil data

|                                   |                          |  |
|-----------------------------------|--------------------------|--|
| Rated voltage                     | 50/60 Hz AC              | 24 ... 230 V                           |
|                                   | DC                       | 12 ... 110 V                           |
| Must release voltage              | DC: ≥ 0,1 U <sub>n</sub> |  |
| Operating range of supply voltage | see Tables 1, 2          |  |
| Rated power consumption           | AC                       | 1,7 VA 24, 48 V      2,5 VA 115, 230 V |
|                                   | DC                       | 1,9 W                                  |

### Insulation according to PN-EN 60664-1

|                             |            |                                       |
|-----------------------------|------------|---------------------------------------|
| Insulation rated voltage    | 250 V AC   |                                       |
| Dielectric strength         |            |                                       |
| • between coil and contacts | 4 000 V AC | type of insulation: reinforced        |
| • contact clearance         | 2 000 V AC | type of clearance: full-disconnection |
| Contact - coil distance     |            |                                       |
| • clearance                 | ≥ 9 mm     |                                       |
| • creepage                  | ≥ 11 mm    |                                       |

### General data

|   |                                |  |
|---|--------------------------------|--|
| Operating / release time (typical values) | 30 ms / 30 ms                  |  |
| Electrical life                           |                                |  |
| • resistive AC1                           | 1 200 cycles/hour              | 10 <sup>5</sup> 1Z: 30 A, 250 V AC      2Z: 25 A, 250 V AC |
| Mechanical life (cycles)                  | > 10 <sup>7</sup>              |  |
| Dimensions (L x W x H)                    | 67 x 33 x 35 mm                |  |
| Weight                                    | 90 g                           |  |
| Ambient temperature                       | • operating                    | -25...+75 °C   |
| Cover protection category                 | IP 50                          | PN-EN 60529  |
| Shock resistance                          | 10 g                           |  |
| Vibration resistance                      | 1,5 mm DA (constant amplitude) | 10...55 Hz   |

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

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**Coil data - DC voltage version**

Table 1

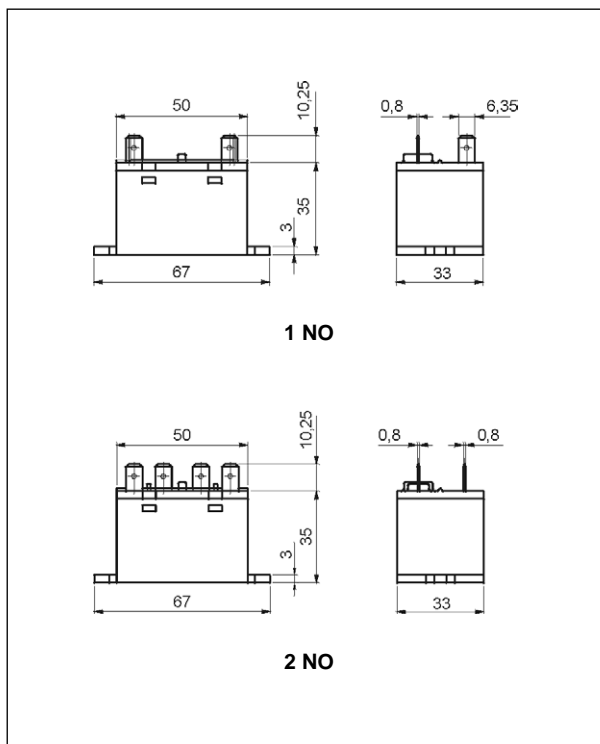
| Coil code | Rated voltage<br>V DC | Coil resistance<br>at 20 °C<br>$\Omega$ | Acceptable<br>resistance | Coil operating range<br>V DC |                 |
|-----------|-----------------------|---|--------------------------|------------------------------|-----------------|
|           |                       |   |                          | min. (at 20 °C)              | max. (at 20 °C) |
| 1012      | 12                    | 75,8                                    | $\pm 10\%$               | 9,0                          | 13,2            |
| 1024      | 24                    | 303                                     | $\pm 10\%$               | 18,0                         | 26,4            |
| 1110      | 110                   | 6 400                                   | $\pm 10\%$               | 82,5                         | 121,0           |

**Coil data - AC 50/60 Hz voltage version**

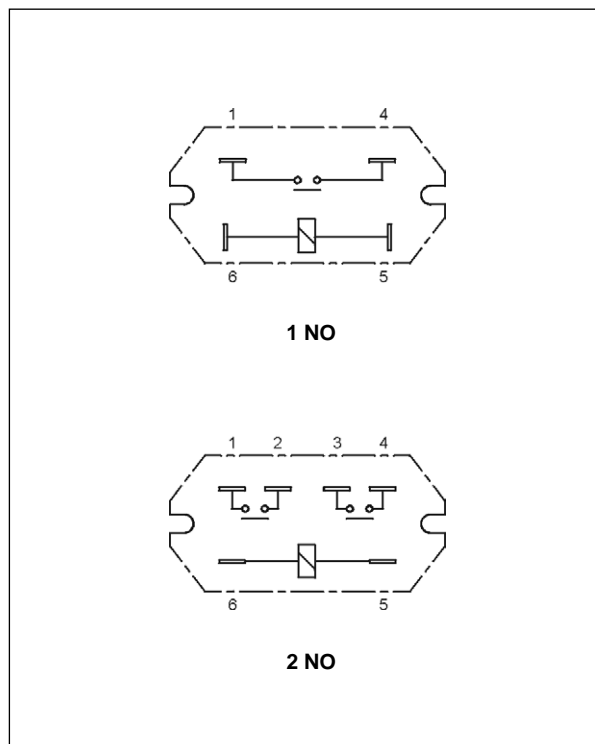
Table 2

| Coil code | Rated voltage<br>V AC | Coil resistance<br>at 20 °C<br>$\Omega$ | Acceptable<br>resistance | Coil operating range<br>V AC |                 |
|-----------|-----------------------|---|--------------------------|------------------------------|-----------------|
|           |                       |   |                          | min. (at 20 °C)              | max. (at 20 °C) |
| 5024      | 24                    | 338                                     | $\pm 10\%$               | 18,0                         | 26,4            |
| 5048      | 48                    |   | $\pm 10\%$               | 36,0                         | 52,8            |
| 5115      | 115                   | 5 260                                   | $\pm 10\%$               | 86,3                         | 126,5           |
| 5230      | 230                   | 21 000                                  | $\pm 10\%$               | 172,5                        | 253,0           |

**Dimensions**



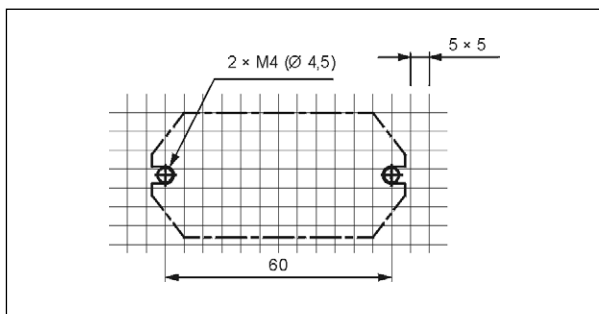
**Connection diagrams (pin side view)**



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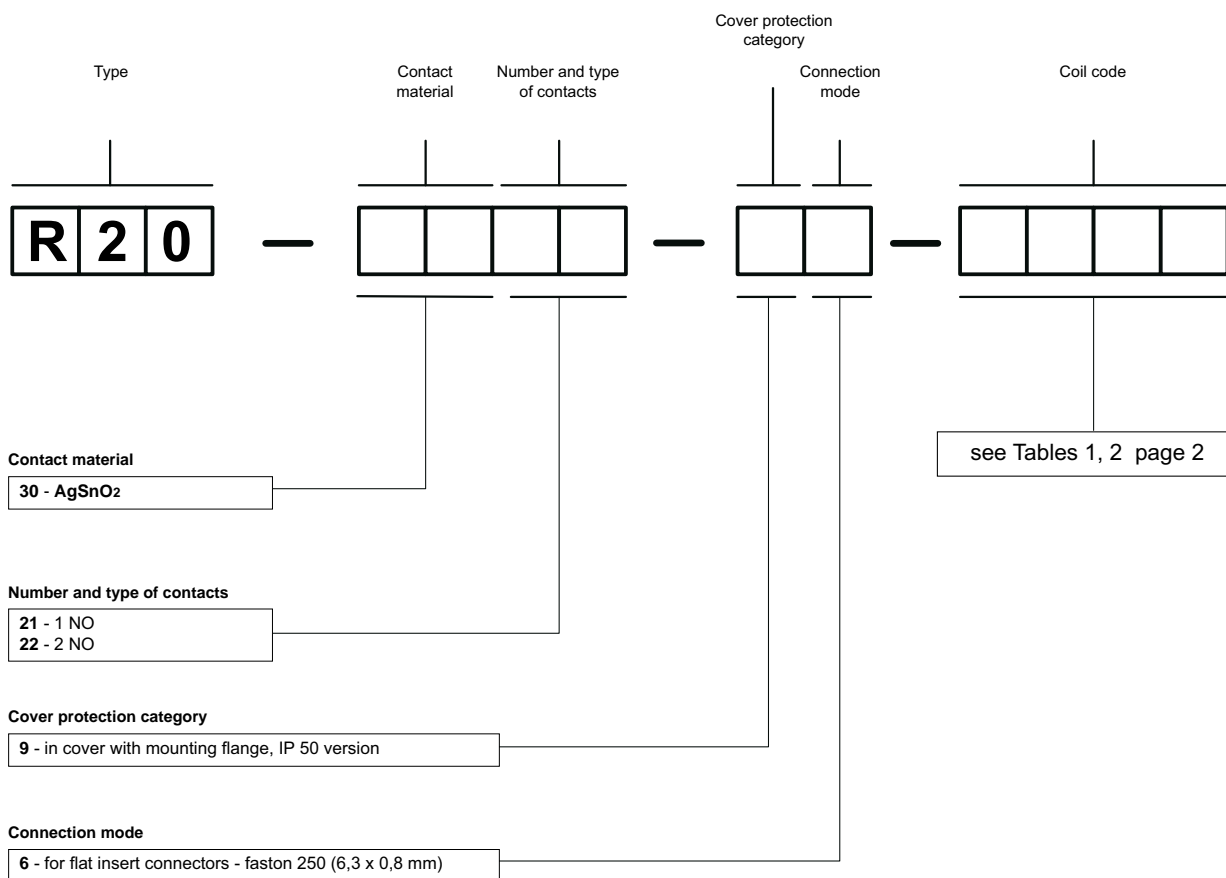
### Pinout



### Mounting

Relays **R20** are designed for flat insert connectors - faston 250 (6,3 x 0,8 mm), relays are direct on panel mounting with two M4 screws.

### Ordering codes



Example of ordering code:

**R20-3021-96-1012** relay **R20**, for flat insert connectors - faston 250 (6,3 x 0,8 mm), one normally open contact, contact material AgSnO<sub>2</sub>, coil voltage 12 V DC, in cover with mounting flange IP 50

### 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.