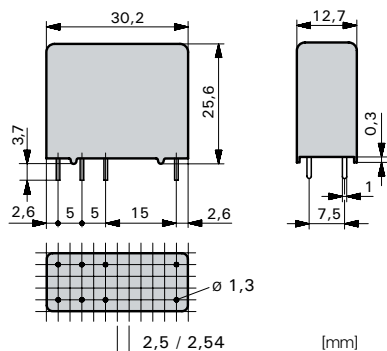




### Relay data

- PCB relay with forcibly guided contacts
- Protective separation between coil and contacts (leakage and creeping distances > 14mm); protective separation diagonally between left and right contact side (leakage and creeping distances > 5,5mm)
- EN 50205, type B
- 2 CO contacts
- Mean coil power 1 W



|                                   |                       |
|-----------------------------------|-----------------------|
| Contact material                  | AgCuNi                |
| Type of contact                   | Single contact        |
| Rated switching capacity          | 250VAC 6A AC1 1'500VA |
| Electr. life AC1 (360 cycles/h)   | approx. 100'000       |
| Inrush current max.               | 15A for 20ms          |
| Switching current range*          | 20mA to 6A            |
| Switching current range**         | 10mA to 6A            |
| Switching capacity range*         | 0,12VA(W) to 1'500VA  |
| Switching capacity range**        | 0,06VA(W) to 1'500VA  |
| Contact resistance (as delivered) | ≤ 100mΩ               |

\* Guide values

\*\* Values for AgCuNi + 4-6 μm Au

### Standard coils for direct current (other voltages on request)

| Nominal voltage VDC | Min. pick-up voltage at 20°C | Drop-out voltage at 20°C | Nominal current in mA | Resistance in Ohm at 20°C | Tolerance in % |
|---------------------|------------------------------|--------------------------|-----------------------|---------------------------|----------------|
| 5                   | 3,75                         | ≥ 0,5                    | 181,8                 | 275                       | ± 10           |
| 6                   | 4,5                          | ≥ 0,6                    | 166,6                 | 36                        | ± 10           |
| 12                  | 9,0                          | ≥ 1,2                    | 85,7                  | 140                       | ± 10           |
| 24                  | 18,0                         | ≥ 2,4                    | 33,3                  | 720                       | ± 10           |
| 48                  | 36,0                         | ≥ 4,8                    | 20,8                  | 2'300                     | ± 10           |
| 60                  | 45,0                         | ≥ 6,0                    | 13,6                  | 4'400                     | ± 13           |
| 110                 | 82,5                         | ≥ 11,0                   | 11,0                  | 10'000                    | ± 15           |

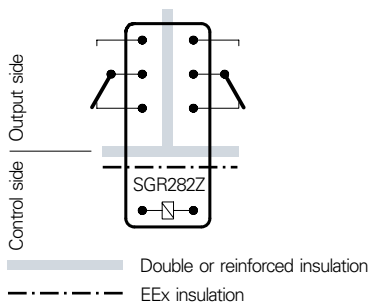
### Ordering example

**GR282Z 24VDC S AgCuNi Au ZGR008**

Type designation \_\_\_\_\_  
 Coil voltage \_\_\_\_\_  
 Special design / sensitive coil \_\_\_\_\_  
 Contact material \_\_\_\_\_  
 Gold plating 4 - 6μm Au \_\_\_\_\_  
 Wash-resistant, RT III \_\_\_\_\_

### General data

#### Circuit diagram (view on relay upper side)



|                                 |                                   |
|---------------------------------|-----------------------------------|
| Mechanical life                 | > 50 x 10 <sup>6</sup> operations |
| Switching frequency, mechanical | 20Hz                              |
| Response time                   | typically 12ms                    |
| Drop-out time***                | typically 5ms                     |
| Bounce time of NO contact       | typically 4ms                     |
| Bounce time of NC contact       | typically 8ms                     |
| Vibration resistance            | 10-55Hz, AK 10g, RK 1,5g          |
| Test voltage coil/contacts      | 5'000Veff 1min                    |
| Test voltage                    |                                   |
| contact set/contact set         | 4'000Veff 1min                    |
| Test voltage contact open       | 1'500Veff 1min                    |
| Insulation resistance           | 10 <sup>11</sup> Ω                |
| Creeping resistance             | CTI 550                           |
| Weight                          | approx. 20g                       |
| Mounting position               | any                               |
| Ambient temperature             | -40°C to +70°C                    |
| Type of protection              | RT II / RT III optionally         |
| Solder bath temperature         | 270°C/5s                          |
| Thermal resistance              | 50K/W                             |
| Temperature limit for coil      | 120°C                             |

\*\*\* without spark suppression

#### Insulation terms

Coil/contacts: Double or reinforced insulation  
 EEx insulation > 14mm  
 Left to right contact side:  
 Double or reinforced insulation > 5,5mm

#### Tests, regulations

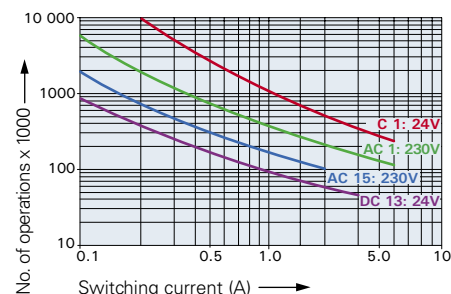
|                              |                           |
|------------------------------|---------------------------|
| Approvals                    | SEV, UL, cUL, TÜV, PTB    |
| Insulation class             | VDE 0110 / group C 250VAC |
| Protection class II          | VDE 0106                  |
| Fire protection requirements | UL 94 / V1                |

#### Options, accessories

|                             |                                 |
|-----------------------------|---------------------------------|
| Contact material            | SGR282Z..VDC AgCuNi +4 - 6μm Au |
| PCB socket, DIN rail socket | see page 23                     |
| Wash-resistant RT III       | SGR282Z..VDC ZGR008             |

### Diagrammes

#### Contact lifetime for AgCuNi



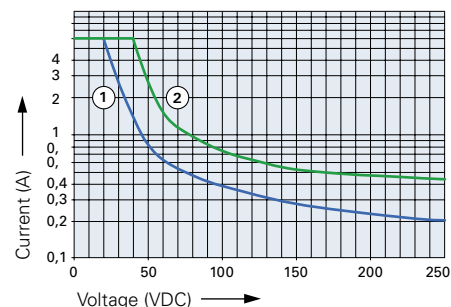
Max. switching characteristics (acc. to DIN EN 60947-5-1 table C2):  
 AC 15: 230V/3A, DC13: 24V/4A

Maximal contact load at AC 1 with 230V:  
 2 contacts each with 6A

#### Gold contacts with 4-6μm layer thickness

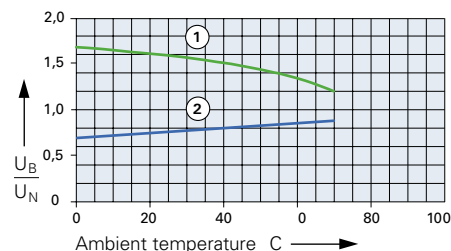
When high voltages and currents are switched, the layer of gold is destroyed already after a few switching operations. Once the gold layer is damaged due to the switching of high loads, such a contact must not be used any more for signal and control current circuits. Safe contact making is then only possible at high loads with the formation of sparks.

#### Load limit curve with direct current



- 1) Inductive load, L/R 40 ms
- 2) Resistive load

#### Excitation voltage range



- 1) Max. excitation voltage with contact load ≤ 2A
- 2) Min. excitation voltage (guaranteed values) without previous operation

No heat accumulation due to intrinsic heating of other components.  
 Continuous duty 100%.



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