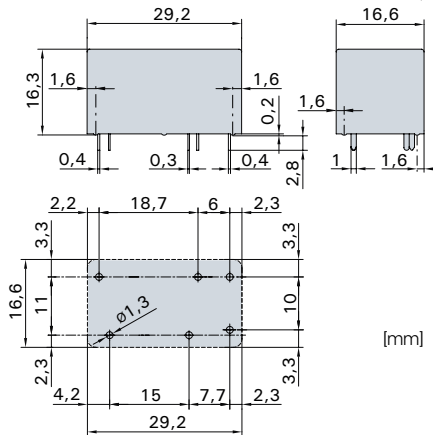




Relay data

- PCB relay with forcibly guided contacts
- Protective separation between control and load circuit (leakage and creepage distances > 10mm)
- EN 50205, type A
- Double and reinforced insulation between the contacts
- Contact mounting: SIS112 1NO/1NC
- Small external dimensions
- Mean coil power 0,27W



Contact material	AgCuNi+0,2-0,4µm Au
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.	30A for 20ms
Switching voltage range	5 to 440VDC/VAC
Switching current range*	5mA to 6A
Switching capacity range*	60mW to 1'500W (VA)
Contact resistance (as delivered)	≤ 100mΩ

* Guide values

**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	≥ 3,5	≥ 0,5	54,9	91	± 10
6	≥ 4,2	≥ 0,6	46,1	130	± 10
9	≥ 6,3	≥ 0,9	30,5	295	± 10
12	≥ 8,4	≥ 1,2	23,0	520	± 10
18	≥ 12,6	≥ 1,8	15,2	1'180	± 10
24	≥ 16,8	≥ 2,4	11,4	2'100	± 10
48	≥ 33,6	≥ 4,8	5,7	8'350	± 15
60	≥ 42,0	≥ 6,0	4,5	13'100	+ 13

Ordering example

SIS 1 1 2 24VDC S ZGR009

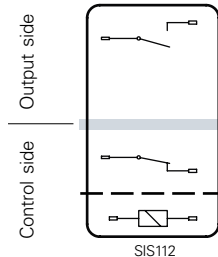
-
- ```

graph LR
 A[Type designation] --> B[Number of NO contacts]
 A --> C[Number of NC contacts]
 B --> D[Soldering tags]
 B --> E[Coil voltage]
 D --> F[Special design]
 D --> G[Wash-resistant, RT III]

```

## General data

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



- - - - Basic insulation  
 Double or reinforced insulation

|                                      |                                   |
|--------------------------------------|-----------------------------------|
| Mechanical life                      | > 10 x 10 <sup>6</sup> operations |
| Switching frequency, mechanical      | 15Hz                              |
| Response time (NO closed)            | typically 10ms                    |
| Drop-out time** (NC closed)          | typically 3ms                     |
| Bounce time of NO contact            | typically 2ms                     |
| Bounce time of NC contact            | typically 15ms                    |
| Shock resistance 16ms                | NO contact 30g<br>NC contact 10g  |
| Vibration resistance 10-200Hz        | NO contact 20g<br>NC contact 5g   |
| Test voltage                         |                                   |
| coil/control contact                 | 2'500Veff 1min                    |
| Test voltage                         | 5'000Veff 1min                    |
| coil- control contact/output contact |                                   |
| Test voltage contact open            | 1'500Veff 1min                    |
| Insulation resistance at Up 500V     | 10 <sup>8</sup> Ω                 |
| Creeping resistance                  | CTI 175                           |
| Weight                               | approx. 18g                       |
| Mounting position                    | any                               |
| Ambient temperature                  | -40°C to +70°C                    |
| Type of protection                   | RT III                            |
| Solder bath temperature              | 270°C/5s                          |
| Thermal resistance                   | 55K/W                             |
| Temperature limit for coil           | 120°C                             |
| Pollution degree                     | 3                                 |
| Overvoltage category                 | III                               |
| Resistance to short circuiting       | 1'000A SCPD 6A<br>gG (pre-fuse)   |

\*\* without spark suppression

### ***Insulation terms***

Coil to control contact: Basic insulation

Coil/control contact to output contact:

Double or reinforced insulation > 10mm

### Tests, regulations

|           |                   |
|-----------|-------------------|
| Approvals | SEV, UL, cUL, TÜV |
|-----------|-------------------|

|                  |                           |
|------------------|---------------------------|
| Insulation class | VDE 0110 / group C 250VAC |
|------------------|---------------------------|

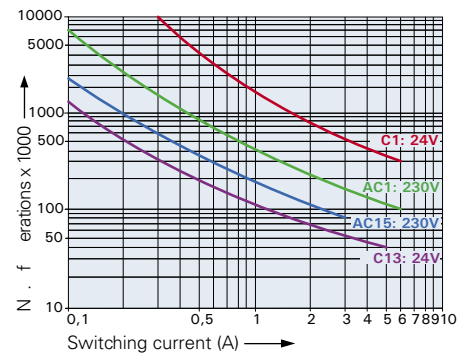
|                     |          |
|---------------------|----------|
| Protection class II | VDE 0106 |
|---------------------|----------|

|                              |            |
|------------------------------|------------|
| Fire protection requirements | UL 94 / V0 |
|------------------------------|------------|

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## Diagrammes

### Contact lifetime



Max. switching characteristics (determined acc. to DIN EN 60947-4-1 / EN 60947-5-1):

AC 1: 250V/6A

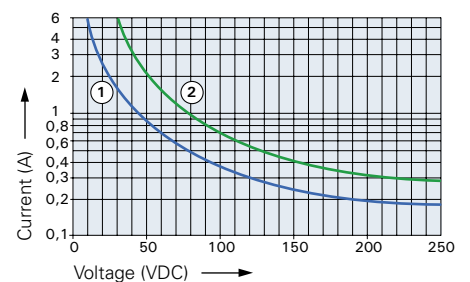
AC 15: 230V/3A

DC 1: 24V/6A

DC 13: 24V/5A/0,1 Hz

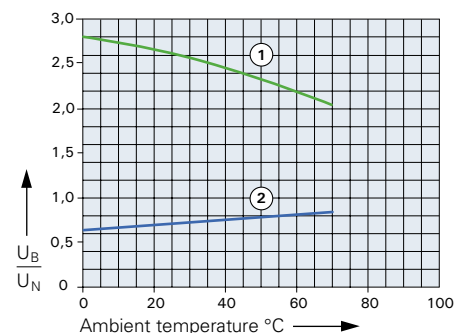
UL 508: B300 / R300

**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  $\leq 2\text{A}$
- 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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