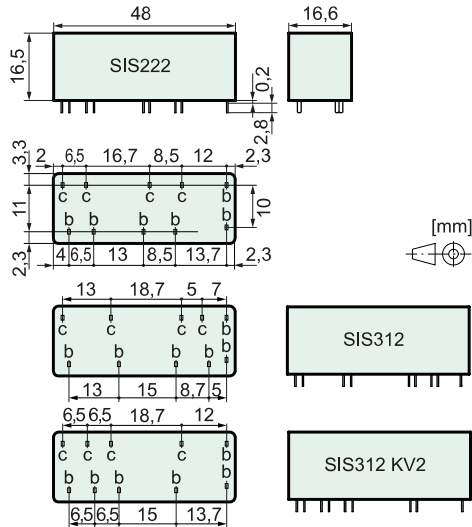




### Features

- Relay with forcibly guided contacts according to IEC 61810-3
- Application type A
- Protective separation (see insulation data)
- Suitable for print mounting
- Contact assembly  
SIS222: 2 NO + 2 NC, SIS312: 3 NO + 1 NC, SIS312 KV2: 3 NO + 1 NC

### Dimensions



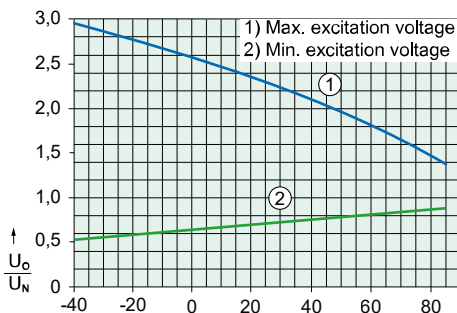
|                             |              |
|-----------------------------|--------------|
| Pin dimension b             | 1,0 x 0,3 mm |
| Pin dimension c             | 1,0 x 0,4 mm |
| Recommended drilling on PCB | Ø 1,3 mm     |

### Coil data at 20 °C

|                        |        |
|------------------------|--------|
| Nominal power          | 0,5 W  |
| Holding power          | 0,15 W |
| Coil limit temperature | 120 °C |

| Nominal voltage (VDC) | Min. Pick-up voltage (VDC) | Min. Drop-out voltage (VDC) | Nominal current (mA) | Resistance (Ohm)  |
|-----------------------|----------------------------|-----------------------------|----------------------|-------------------|
| 5,0                   | 3,5                        | 0,5                         | 100                  | 50 (1 ± 10 %)     |
| 12,0                  | 8,4                        | 1,2                         | 42                   | 285 (1 ± 10 %)    |
| 18,0                  | 12,6                       | 1,8                         | 28                   | 640 (1 ± 10 %)    |
| 24,0                  | 16,8                       | 2,4                         | 21                   | 1 150 (1 ± 10 %)  |
| 48,0                  | 33,6                       | 4,8                         | 10                   | 4 600 (1 ± 10 %)  |
| 60,0                  | 42,0                       | 6,0                         | 8                    | 7 200 (1 ± 13 %)  |
| 110,0                 | 77,0                       | 11,0                        | 5                    | 24 200 (1 ± 15 %) |

### Excitation voltage range



### Test conditions:

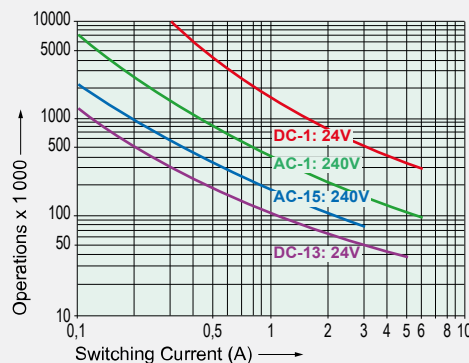
- Graph 1: Contact current 4 A MAX
- Graph 2: without previous operation
- Free-standing relay on PCB
- Duty cycle 100%

### Contact data

|                                                 |                                   |
|-------------------------------------------------|-----------------------------------|
| Contact material                                | AgCuNi + 0,2, ..., 0,4 µm Au      |
| Type of contact                                 | Single contact with notched crown |
| Rated switching power                           | 1500 VA                           |
| 250 V / 6 A / AC-1 (max.)                       |                                   |
| Electr. life time (0,1 Hz, rel. duty cycle 10%) | 90 000                            |
| Inrush current                                  | 30 A for 20 ms                    |
| Switching voltage range                         | 5, ..., 250 V DC / AC             |
| Switching current range*                        | 3 mA, ..., 6 A                    |
| Switching power range*                          | 40 mW, ..., 1500 W (VA)           |
| Contact resistance as new (max.)                | 100 mΩ                            |
| Short circuit resistance of contacts**          | 1000 A                            |
| with pre-fuse                                   | SCPD 6 A gG / gL (fuse)           |

\* Reference values \*\* Prospective short-circuit current

### Electrical life (NO contacts)



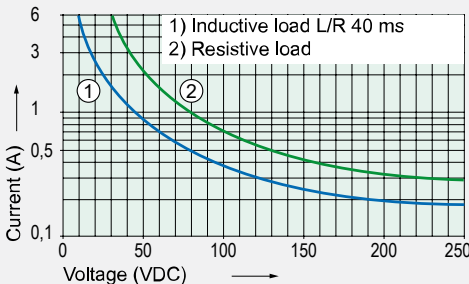
### Switching capacity (IEC 61810-1)

|        |                         |
|--------|-------------------------|
| AC-1:  | 240 V / 6 A MAX         |
| AC-15: | 240 V / 3 A MAX         |
| DC-1:  | 24 V / 6 A MAX          |
| DC-13: | 24 V / 5 A / 0,1 Hz MAX |

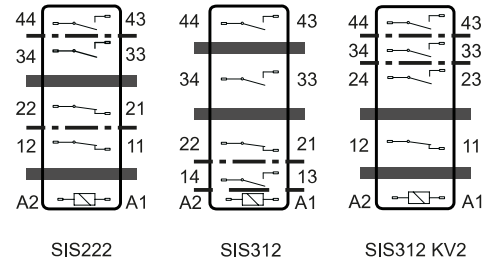
### Switching capacity (UL 508)

|                                            |         |
|--------------------------------------------|---------|
| B300, R300                                 |         |
| Continuous current per contact at load of: |         |
| 1 or 2 contacts                            | 6 A MAX |
| 3 contacts                                 | 4 A MAX |

### Contact load limit curve (DC)



### Circuit diagram (top view)



### Insulation data

|                                        |                               |
|----------------------------------------|-------------------------------|
| Rated insulation voltage (IEC 60664-1) | 250 VAC                       |
| Basic insulation                       | 4 mm                          |
| - Air and creepage distance (min.)     | 4 mm                          |
| - Test voltage                         | 2500 V <sub>rms</sub> / 1 min |
| Double or reinforced insulation        | 5,5 mm                        |
| - Air and creepage distance (min.)     | 5,5 mm                        |
| - Test voltage                         | 4000 V <sub>rms</sub> / 1 min |
| Double or reinforced insulation        | 8 mm                          |
| - Air and creepage distance (min.)     | 8 mm                          |
| - Test voltage                         | 4000 V <sub>rms</sub> / 1 min |
| Open contact: Test voltage*            | 1500 V <sub>rms</sub> / 1 min |
| Creepage resistance                    | CTI 175                       |
| Pollution degree                       | 2                             |
| Overvoltage category                   | III                           |
| Insulation resistance (min.)           | 100 MΩ                        |
| - Test voltage                         | 500 VDC                       |

\* Initial value

### Mechanical data

|                                         |                                 |
|-----------------------------------------|---------------------------------|
| Mechanical lifetime (min.)              | 10 x 10 <sup>6</sup> operations |
| Switching frequency (max.)              | 15 Hz                           |
| Response time (NO closed) (typ.)        | 15 ms                           |
| Drop-out time (NC closed) (typ.)*       | 5 ms                            |
| Bounce time (typ.)                      | NO: 2 ms / NC: 15 ms            |
| Shock resistance (16 ms) (min.)         | NO: 10g / NC: 10g               |
| Vibration resistance (10-200 Hz) (min.) | NO: 10g / NC: 4g                |
| Weight                                  | approx. 30 g                    |
| Mounting position                       | any                             |
| Mounting distance (min.)                | 1 mm                            |

\* without coil wiring

### Other Data

|                         |                     |
|-------------------------|---------------------|
| Ambient temperature     | -40 °C, ..., +85 °C |
| Thermal resistance      | 45 K / W            |
| Protection class        | RT III              |
| Solder bath temperature | 270 °C / 5 s        |
| Test method (heating)   | A (group assembly)  |
| Approvals               | cULus, TÜV          |
| Flammability class      | UL 94 V-0           |
| UL File                 | E188953 Sec. 5      |

### Options, Accessories

|                                                  |          |
|--------------------------------------------------|----------|
| Other pin lengths                                | possible |
| Other coil designs                               | possible |
| Coils accord. to EN 50155 (railway applications) | possible |

### Product key

SIS 3 1 2 24VDC XX

| SIS   | Type designation      |                      |
|-------|-----------------------|----------------------|
| 3     | Number of contacts NO |                      |
| 1     | Number of contacts NC |                      |
| 2     | Connection technology | 2 = Solder terminals |
| 24VDC | Nominal coil voltage  |                      |
| XX    | Options               |                      |