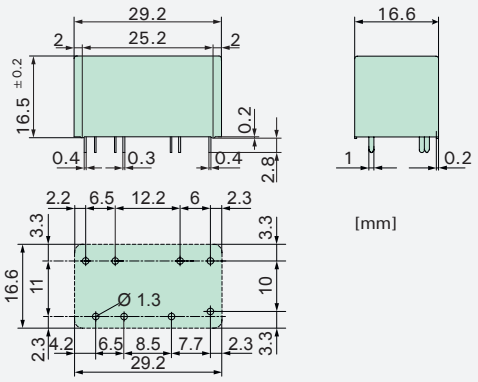
# SIS 3 Series

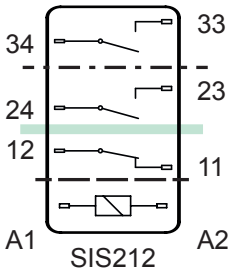
## Relay Key Data

- PCB Relay with forcibly guided contacts
- Protective separation between control and load curcuit (leakage and creepage distances >8mm)
- EN50205 type A
- Double and reinforced insulation between the contacts
- Contact mounting: SIS212 2NO / 1NC
- Small external dimensions
- Mean coil power 0.6 W
- Holding coil power 0.18 W
- For railway application (EN50155) on request

## Dimensions




## Circuit Diagram (view on relay upper side)




## Insulation Data

| | | |
|---|---|---|
| - - - | - Basic insulation | at 250VAC |
| | - Air and creepage distance | >4mm |
| | - Test voltage | 2'500V/50Hz/1min |
| | - Double or reinforced insulation | |
| - · - · - | - Air and creepage distance | at 250VAC >5.5mm |
| | - Test voltage | 4'000V/50Hz/1min |
| | - Double or reinforced insulation | |
| | - Air and creepage distance | at 250VAC >8mm |
| | - Test voltage | 4'000V/50Hz/1min |
| Test voltage contact open | | 1'500V/50Hz/1min |
| Creepage resistance | | CTI 175 |
| Pollution degree | | 2 |
| Overvoltage category | | III |
| Insulation resistance at Up 500VDC | | >100MΩ |

## Contact Data

| | |
|---|---|
| Contact material | AgCuNi+0.2-0.4µm Au |
| Type of contact | Single contact with notched crown |
| Rated switching capacity | 250VAC 6A AC1 1'500VA |
| Electr. life AC 1(360 cycles/h) | >90'000 |
| Inrush current max. | 30A for 20ms |
| Switching voltage range | 5 to 250 VDC/VAC |
| Switching current range* | 3mA to 6A |
| Switching capacity range* | 40mW to 1'500W(VA) |
| Contact resistance (as delivered) | ≤100mΩ/6V/100mA |

*Guided values

## Additional Data

| | |
|---|---|
| Mechanical endurance | >10x10⁶ operations |
| Switching frequency, mechanical | 15Hz |
| Response time (all NO closed) | typically 10ms |
| Drop-out time** (all NC closed) | typically 3ms |
| Bounce time of NO contact | typically 2ms |
| Bounce time of NC contact | typically 15ms |
| Shock resistance 16ms | NO > 17g<br>NC > 10g |
| Vibration resistance (10-200Hz) | NO > 7g<br>NC > 3g |
| Resistance to short circuiting contacts | 1'000A SCPD 6A gG/gL (pre-fuse) |
| Ambient temperature | -40°C to +70°C |
| Thermal Resistance | 55K/W |
| Temperature limit for coil | 120°C |
| Weight | ca. 20g |
| Mounting position | any |
| Type of protection | RT III |
| Solder bath temperature | 270°C/5s |

**without spark suppression

## 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 |
|---|---|---|---|---|
| 5 | ≤3.5 | ≥0.5 | 120.0 | 41.5 ± 10% |
| 9 | ≤6.3 | ≥0.9 | 66.6 | 135 ± 10% |
| 12 | ≤8.4 | ≥1.2 | 50.0 | 240 ± 10% |
| 18 | ≤12.6 | ≥1.8 | 33.3 | 540 ± 10% |
| 24 | ≤16.8 | ≥2.4 | 25.0 | 960 ± 10% |
| 48 | ≤33.6 | ≥4.8 | 12.5 | 3'840 ± 10% |
| 60 | ≤42.0 | ≥6.0 | 10.0 | 6'000 ± 13% |
| 110 | ≤77.0 | ≥11.0 | 5.4 | 20'150 ± 15% |

## Tests, Regulations

Approvals

| | |
|---|---|
| UL File E188953 | Sec. 5 |
| Insulation class IEC 60664-1 | 250VAC |
| Protection class II | VDE 0106 |
| Fire protection requirements | UL 94 / V0 |

## Options, Accessories

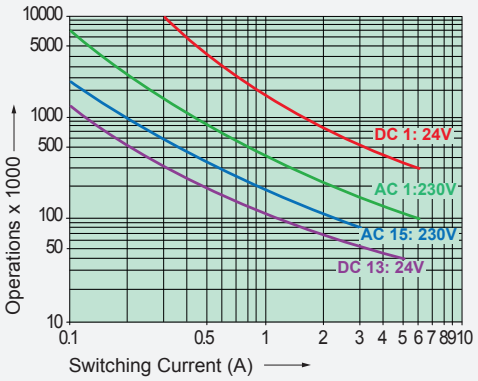
none available

## Product Key

SIS 2 1 2 24VDC

- 24VDC: Coil voltage
- 2: Soldering tags
- 1: Number of NC contacts
- 2: Number of NO contacts
- SIS: Type designation

## Contact Lifetime for NO contacts

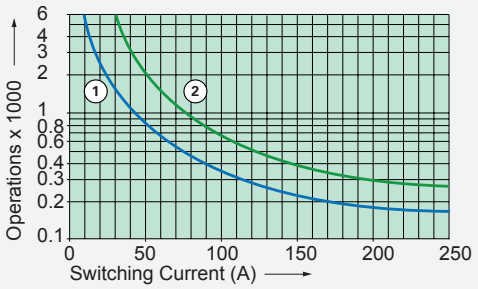



Maximal switching characteristics (DIN EN60947-5-1)

| | |
|---|---|
| AC 1: | 250V / 6A |
| AC 15: | 230V / 3A |
| DC 1: | 24V / 6A |
| DC 13: | 24V / 5A / 0.1Hz |
| UL 508: | B300 / R300 |

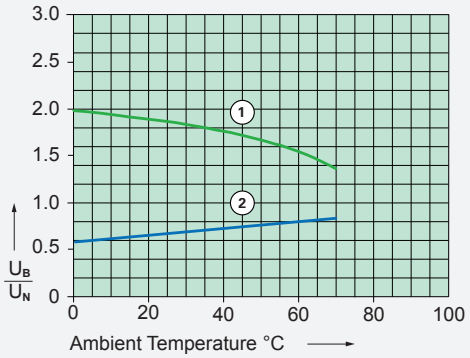
Maximal contact load at AC 1 with 230V:
2 contacts with 6A each

## Load Limit Curve with Direct Current




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

## Excitation Voltage Range




1) Max. excitation voltage with contact load: ≤4A
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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