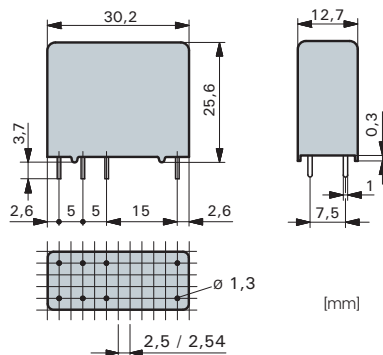




### Relay data

- PCB relay with forcibly guided contacts
- Protective separation between coil and contacts (leakage and creepage 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 1W
- Holding power 0.31 W



|                                   |                              |
|-----------------------------------|------------------------------|
| Contact material                  | AgSnO <sub>2</sub> +0.2μm Au |
| Type of contact                   | Single contact               |
| Rated switching capacity          | 250VAC 8A AC1 2'000VA        |
| Electr. life AC1 (360 cycles/h)   | approx. 100'000              |
| Inrush current max.               | 15A for 20ms                 |
| Switching voltage range           | 5 to 250 VDC/VAC             |
| Switching current range*          | 10mA to 8A                   |
| Switching capacity range*         | 0.12VA(W) to 2'000VA         |
| Contact resistance (as delivered) | ≤100mΩ/28 V/100mA            |

\* Guide values

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

| Nominal voltage<br>VDC | Min. pick-up<br>voltage at 20°C | Drop-out voltage<br>at 20 °C | Nominal current<br>in mA | Resistance in<br>Ohm at 20 °C | Tolerance in % |
|------------------------|---------------------------------|------------------------------|--------------------------|-------------------------------|----------------|
| 5                      | 3,75                            | ≥ 0,5                        | 181,0                    | 275                           | ± 10           |
| 6                      | 4,5                             | ≥ 0,6                        | 166,0                    | 36                            | ± 10           |
| 12                     | 9,0                             | ≥ 1,2                        | 85,7                     | 140                           | ± 10           |
| 18                     | 13,5                            | ≥ 1,8                        | 66,6                     | 270                           | ± 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           |

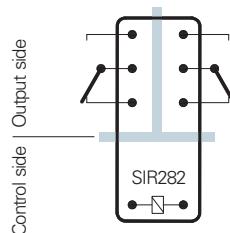
### Ordering example

**SIR282 24VDC 08**

Type designation  
Coil voltage  
Wash-resistant / with O-ring

### General data

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



Double or reinforced insulation

|                                      |                                   |
|--------------------------------------|-----------------------------------|
| 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                |
| Creepage 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                             |
| Pollution degree                     | 2                                 |
| Resistance to short circuiting       | 1'000A SCPD 10A gL/gG (pre-fuse)  |

\*\* without spark suppression

#### Insulation terms

Coil/contacts: Double or reinforced insulation > 14mm  
Left to right contact side:  
Double or reinforced insulation > 5.5mm

#### Tests, regulations

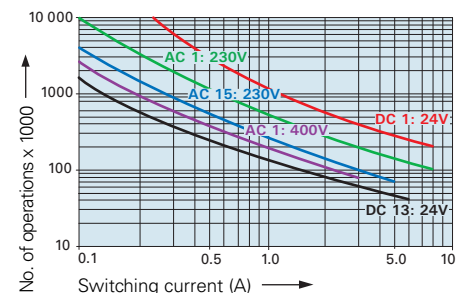
|                              |                   |
|------------------------------|-------------------|
| Approvals                    | SEV, UL, cUL, TÜV |
| UL File E188953              | Sec. 1            |
| Insulation class IEC 60664-1 | 250VAC            |
| Protection class II          | VDE 0106          |
| Fire protection requirements | UL 94 / V1        |

#### Options, accessories

|                             |             |
|-----------------------------|-------------|
| Wash-resistant with O-Ring  |             |
| Sealed RT III               | on request  |
| PCB socket, DIN rail socket | see page 29 |

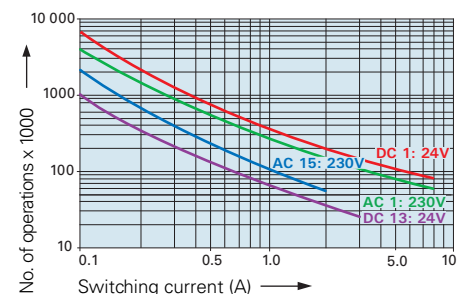
### Diagrams

#### Contact lifetime for NO contact



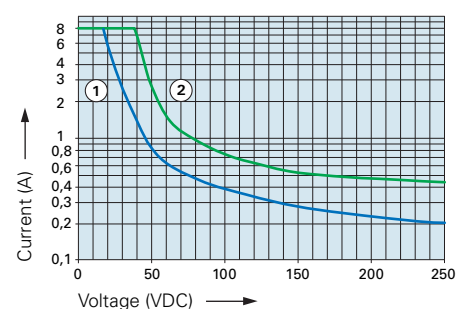
Max. switching characteristics  
(acc. to DIN EN 60947-5-1 table C2):  
AC 15: 230V/5A, DC13: 24V/6A; UL 508: C300  
Maximal contact load at AC 1 with 230V:  
2 contacts each with 8A

#### Contact lifetime for NC contact



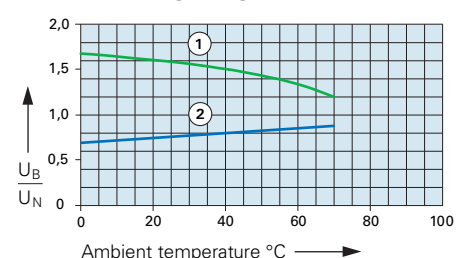
Max. switching characteristics  
(acc. to DIN EN 60947-5-1 table C2):  
AC 15: 230V/2A, DC13: 24V/3A

#### Load limit curve with direct current



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

#### Excitation voltage range



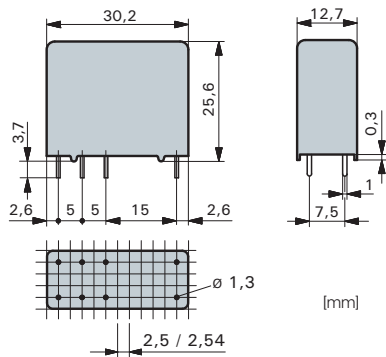
- 1) Max. excitation voltage with contact load ≤ 2A
- 2) Min. excitation voltage (guaranteed values) without previous operation

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



### Relay data

- PCB relay with forcibly guided contacts
- Protective separation between coil and contacts (leakage and creepage 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 0.7W
- Holding power 0.21 W



|                                   |                              |
|-----------------------------------|------------------------------|
| Contact material                  | AgSnO <sub>2</sub> +0.2μm Au |
| Type of contact                   | Single contact               |
| Rated switching capacity          | 250VAC 8A AC1 2'000VA        |
| Electr. life AC1 (360 cycles/h)   | approx. 100'000              |
| Inrush current max.               | 15A for 20ms                 |
| Switching voltage range           | 5 to 250 VDC/VAC             |
| Switching current range*          | 10mA to 8A                   |
| Switching capacity range*         | 0.12VA(W) to 2'000VA         |
| Contact resistance (as delivered) | ≤100mΩ/28V/100mA             |

\* Guide values

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

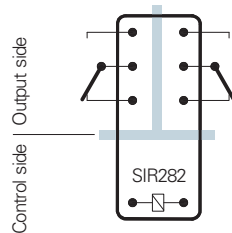
| Nominal voltage VDC | Min. pick-up voltage at 20°C | Drop-out voltage at 20 °C | Nominal current in mA | Resistance in Ohm at 20 °C | Tolerance in % |
|---------------------|------------------------------|---------------------------|-----------------------|----------------------------|----------------|
| 5                   | 3,75                         | ≥ 0,5                     | 144,0                 | 34,7                       | ± 10           |
| 6                   | 4,5                          | ≥ 0,6                     | 120,0                 | 50                         | ± 10           |
| 12                  | 9,0                          | ≥ 1,2                     | 60,0                  | 200                        | ± 10           |
| 18                  | 13,5                         | ≥ 1,8                     | 40,0                  | 450                        | ± 10           |
| 24                  | 18,0                         | ≥ 2,4                     | 30,0                  | 800                        | ± 10           |
| 48                  | 36,0                         | ≥ 4,8                     | 15,0                  | 3'200                      | ± 10           |
| 60                  | 45,0                         | ≥ 6,0                     | 12,0                  | 5'000                      | ± 13           |
| 110                 | 82,5                         | ≥ 11,0                    | 6,5                   | 16'800                     | ± 15           |

### Ordering example

**SIR282 24VDC SEN 08**  
 Type designation  
 Coil voltage  
 sensitive coil  
 Wash-resistant / with O-ring

### General data

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



Double or reinforced insulation

|                                      |                                   |
|--------------------------------------|-----------------------------------|
| 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                |
| Creepage 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                             |
| Pollution degree                     | 2                                 |
| Resistance to short circuiting       | 1'000A SCPD 10A gL/gG (pre-fuse)  |

\*\* without spark suppression

#### Insulation terms

Coil/contacts: Double or reinforced insulation  
 > 14mm  
 Left to right contact side:  
 Double or reinforced insulation > 5.5mm

#### Tests, regulations

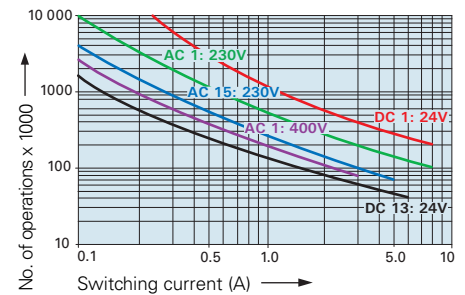
|                              |                   |
|------------------------------|-------------------|
| Approvals                    | SEV, UL, cUL, TÜV |
| UL File E188953              | Sec. 1            |
| Insulation class IEC 60664-1 | 250VAC            |
| Protection class II          | VDE 0106          |
| Fire protection requirements | UL 94 / V1        |

#### Options, accessories

|                             |             |
|-----------------------------|-------------|
| Wash-resistant with O-Ring  |             |
| Sealed RT III               | on request  |
| PCB socket, DIN rail socket | see page 29 |

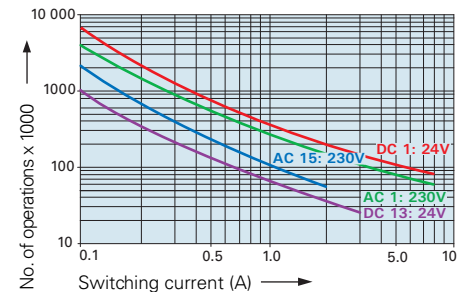
### Diagrams

#### Contact lifetime for NO contact



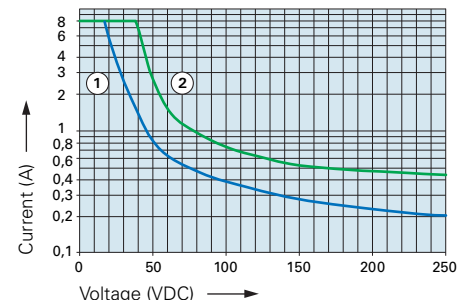
Max. switching characteristics  
 (acc. to DIN EN 60947-5-1 table C2):  
 AC 15: 230V/5A, DC13: 24V/6A; UL 508: C300  
 Maximal contact load at AC 1 with 230V:  
 2 contacts each with 8A

#### Contact lifetime for NC contact



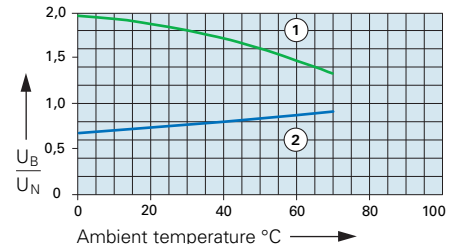
Max. switching characteristics  
 (acc. to DIN EN 60947-5-1 table C2):  
 AC 15: 230V/2A, DC13: 24V/3A

#### 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%.