Datasheet
SAFESERIES SIL RELAYS
SCS Series

NEW

Weidmuller’s single and dual channel DIN rail-mounted SCS Series are relay modules suitable for switching safety related circuits up to SIL3 level according to IEC 61508, for high risk installations.

Typical applications include safety interlocks for burner management systems, over-fill controls for bulk liquid storage tanks and plant shut-down systems.

The SCS Series is part of Weidmuller’s broad range of high reliability electronics and electrical connectivity products which services process industries and factory automation systems worldwide.

• SIL relays for process Emergency Shut-Down systems
• Certified cULus and to IEC 61508 for SIL3 (TÜV)
• Energized or de-energized to safe modes
• Single and two-channel models
• Monitoring options with wide-range input voltage

Safe control of back-up systems
The monitoring circuit option takes inputs from 24 to 230 V AC/DC and the safety relay is intended for use in back-up systems or storage tank overfill prevention.

Safe control of burner operation
Fuel flow to the burner may be cut-off in a boiler alarm condition. SAFESERIES offers a SIL3 fuel cut-off relay which interfaces with the burner management controls.

Safe use in corrosive environments
The SIL3 relay is also available with a G3 coating, which makes it especially suitable for use in aggressive environmental conditions.

Safe activation and deactivation
This flexible safety relay can be used in either energize-to-safe or de-energize-to-safe mode. This makes it suitable for use both with actuators which should be powered-on under safe conditions or those which should be powered-off.

Weidmuller, Canada
10 Spy Court
Markham, Ontario L3R 5H6
Telephone: (800) 268-4080
Facsimile: (877) 300-5635
Email: info1@weidmuller.ca
Website: www.weidmuller.ca

Weidmuller, Mexico
Blvd. Hermanos Serrán 698,
Col. San Rafael Oriente
Puebla, Puebla, Mexico
C.P. 72029
Telephone: 01 222 2686267
Facsimile: 01 222 2686219
Email: clientes@weidmuller.com.mx
Website: www.weidmuller.com.mx

Weidmuller, United States
821 Southlake Blvd.
Richmond, Virginia 23236
Telephone: (800) 849-9343
Facsimile: (804) 379-2593
Email: info@weidmuller.com
Website: www.weidmuller.com
**SIL3 relays**
- With and without monitoring circuit
- Wide-range input voltage in the monitoring circuit
- Externally accessible fuse
- TÜV certified “Safety Approved”
- SIL3 rated when internal or external output fuse used

**Technical data**

<table>
<thead>
<tr>
<th>Temperatures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambient temperature (operational)</td>
</tr>
<tr>
<td>Storage temperature</td>
</tr>
</tbody>
</table>

**General data**

- Noxious gas resistance to EN 60068-2-60: Yes (art. No.: 1304040000 only)

**Input (safety circuit)**
- Rated control voltage: 24 V DC ± 20%
- Guaranteed current consumption of 24 V DC: -10 % 35 mA
- Power consumption: 42 mA
- Status indicator LED: yellow

**Input (monitor circuit)**
- Rated control voltage: 24 V AC/DC...230 V AC/DC ±10 %
- Current consumption: 23 mA @ 24 V DC, 4.4 mA @ 230 V AC
- Status indicator LED: yellow

**Output (safety circuit)**
- Contact design: NO contact
- Max. switching current, internal fuse: 5 A (refer to derating curve)
- Max. switching current, external fuse: 5 A (refer to derating curve)
- Max. permitted switching voltage: 250 V AC / 30 V DC
- Min. switching power: 12 V / 10 mA
- Max. switching power: 2000 VA
- Switch-on time: typ. 7 ms
- Base material of the contact: Ag Ni 0.15
- Internal fuse
- External back-up fuse
- Short-circuit-proof

**Output (monitor circuit)**
- Contact design: CO contact
- Max. permitted switching voltage: 24 V DC
- Max. allowed switching current: 30 A
- Switch-on time: typ. 17 ms
- Short circuit resistant

**Insulation coordination (EN 50178)**
- Rated voltage: 300 V
- Creepage and clearance distance input – output: ≥ 5.5 mm
- Creepage and clearance distance output – output: ≥ 5.5 mm
- Dielectric strength input – output: 1.2 kV / 1 min.
- Dielectric strength output – output: 1.2 kV / 1 min.
- Dielectric strength to mounting rail: 1.2 kV / 1 min.
- Impulse withstand voltage: 6 kV (1.2/50 µs)
- Surge voltage category: III
- Pollution severity: 2

**Further details of approvals / standards**

- Standards / Approvals: EN 61000, EN 61326-3-2, EN 61508 / cULus, SIL3
- cULus Listed to UL 508 and CSA C22.2 No. 14 under file E223474.

**Dimensions**

- Clamping range (nominal / min. / max.): mm² 1.5 / 0.13 / 2.5
- Depth x width x height: mm 114 / 22.5 / 117.2

**Ordering data**

<table>
<thead>
<tr>
<th>Type</th>
<th>Qty.</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCS 24 VDC P1SIL3DS M</td>
<td>1</td>
<td>1303760000</td>
</tr>
<tr>
<td>SCS 24 VDC P1SIL3DS</td>
<td>1</td>
<td>1303890000</td>
</tr>
<tr>
<td>SCS 24 VDC P1SIL3DS MG3</td>
<td>1</td>
<td>1304040000</td>
</tr>
</tbody>
</table>

**Note**

- The SCS 24 V DC P1SIL3DS safety relay is used in areas that require a functionally safe shutdown.
- This component fulfills the requirements of IEC 61508, SIL3. cULus Listed to UL 508 and CSA C22.2 No. 14 under file E223474.
SIL3 relays
- Energized / de-energized to safe
- Test inputs for testing the relay contacts
- Externally accessible fuse
- TÜV certified “Safety Approved”
- SIL3 rated when internal or external output fuse used

Technical data

Temperatures
Ambient temperature (operational) -25 °C...+50 °C
Storage temperature -40 °C...+85 °C

Input (safety circuit)
Rated control voltage 24 V DC -15 / +20%
Guaranteed current consumption of 24 V DC -10%
Power consumption 45 mA
Status indicator LED yellow

Test inputs
Rated control voltage 24 V DC
Status indicator LED red flashing: test input is triggered
Number of test inputs 2

Output (safety circuit)
Contact design
Max. switching current, internal fuse 5 A (refer to derating curve)
Max. switching current, external fuse 5 A (refer to derating curve)
Max. permitted switching voltage 250 V AC
Min. switching power 12 V / 10 mA
Max. switching power 2000 VA
Switch-on time < 5.5 ms (DTS), < 5 ms (ETS)
Internal fuse
External back-up fuse
Short-circuit-proof

Insulation coordination (EN 50178)
Rated voltage 300 V
Creepage and clearance distance input – output ≥ 5.5 mm
Dielectric strength input – output 1.2 kV/mm / 1 min.
Dielectric strength output – output 1.2 kV/mm / 1 min.
Dielectric strength to mounting rail 1.2 kV/mm / 1 min.
Impulse withstand voltage 8 kV (1.2/50 µs)
Surge voltage category III
Pollution severity 2

Further details of approvals / standards
Standards / Approvals EN 61000, EN 61326-3-2, EN 61508 / SIL3

Dimensions
Clamping range (nominal / min. / max.) mm² 1.5 / 0.13 / 2.5
Depth x width x height mm 114 / 22.5 / 117.2

Ordering data

Type Qty. Part No.
SCS 24VDC P2SIL3DSES 1 1319270000

Note
DTS (de-energized to safe)
ETS (energized to safe)

The safety relay SCS 24 V DC P2SIL3DSES is used in areas that require functionally safe deactivation or activation. The requirements according to IEC 61508, SIL3 can be fulfilled with this module.
**SIL3 relays**
- Positively-driven contacts
- 2-channel design
- Insert according to EN 50156
- TÜV certified “Safety Approved”

### Technical data

**Temperatures**
- Ambient temperature (operational) -25 °C...+55 °C
- Storage temperature -40 °C...+85 °C

**Start circuit**
- Operating voltage
- Function

**Input (supply)**
- Rated control voltage 24 V DC ±15 %
- Current consumption 55 mA (release circuit enabled), 6 mA (release circuit not enabled)

**Guaranteed current consumption at 24 V DC -10 %**
- 35 mA

**Response time**
- with bridge via C1/C2: typ. 50 ms, without bridge via C1/C2: typ. 20 ms
- LED green, power, LED yellow, signal
- Yes, max 4 s up to switch-off (Polyfuse)

**Monitoring circuit**
- Operating voltage 22 V DC, from internal power supply
- Input 2, each externally bridgeable

**Output (release circuit)**
- Contact version 2 NO positively-driven (EN 50205)
- Switching voltage AC, max. 250 V
- Max. permitted switching current 6 A
- Min. switching capacity 12 V / 10 mA
- Max. switching capacity 6 A / 10 mA
- Max. switching power 2000 VA
- Switch-on time 55 ms (C1/C2 bridged, switched via A1/A2), 30 ms (opening/closing of monitoring circuit)
- Switch-off time 20 ms (C1/C2 bridged, switched via A1/A2), 15 ms (opening/closing of monitoring circuit)
- AgSnO
- 5 A time-lag (refer to User Manual for details)
- 5 A time-lag (refer to User Manual for details)

**Feedback output**
- Contact version 1 NC positively-driven (EN 50205 type B)
- Switching voltage AC, max. 250 V

**Insulation coordination (EN 50178)**
- Rated voltage 300 V
- Creepage and clearance distance input – output mm²
- Creepage and clearance distance output – output mm²
- Dielectric strength input – output kV/mm
- Dielectric strength output – output kV/mm
- Dielectric strength to mounting rail kV/mm
- Impulse withstand voltage kV (1.2/50 µs)
- Surge voltage category III
- Pollution severity 2

**Further details of approvals / standards**
- Standards / Approvals
- Dimensions

**Ordering data**
- Type SCS 24VDC P2SIL3ES
- Qty. 1
- Part No. 1319280000

---

**Use where fuel flow to the burner may be cut-off in a boiler alarm condition. SAFESERIES model SCS 24 V DC P2SIL3ES offers a SIL3 fuel cut-off relay which interfaces with the burner management controls.**