

SCS 24VDC P1SIL3ES LL-T

Weidmüller Interface GmbH & Co. KG

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com



This SIL3 safety relay have been specially developed for applications in which a functionally safe switch-on in the process industry is required. The relay meet the requirements of functional safety and has been certified by TUV NORD according to EN 61508:2010. The approval for Ex-areas as well as the extended temperature range up to 70 °C enables the usage even under challenging environmental conditions. The integrated diagnostic and alarm output of the relay ensures permanent monitoring for wire breakage and load faults.

- Line (Wire break detection) and load monitoring
- Approval for Ex-areas
- Certified according to EN 61508:2010
- Optional 17.8 mm slim safety relay with temperature range up to 50 °C

General ordering data

| | |
|------------|---|
| Version | Safety relay, 24 V DC \pm 20%, , Max. switching current, internal fuse : , Safety category: SIL 3 EN 61508:2010 |
| Order No. | 2634010000 |
| Type | SCS 24VDC P1SIL3ES LL-T |
| GTIN (EAN) | 4050118665550 |
| Qty. | 1 Stück |

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Technische Daten

Dimensions and weights

| | | | |
|------------|----------|-----------------|------------|
| Depth | 119,2 mm | Depth (inches) | 4,693 inch |
| Height | 113,6 mm | Height (inches) | 4,472 inch |
| Width | 22,5 mm | Width (inches) | 0,886 inch |
| Net weight | 240 g | | |

Temperatures

| | | | |
|---------------------|-----------------------|-----------------------|----------------|
| Storage temperature | -40 °C...85 °C | Operating temperature | -40 °C...70 °C |
| Humidity | 95 %, no condensation | | |

Input (power supply)

| | | | |
|------------------------|---------------|-----------------------|-----------------------------|
| Connection designation | 0V, 24 V | Rated control voltage | 24 V DC ±20 % |
| Current consumption | < 40 mA + M14 | Protective circuit | Reverse polarity protection |

Input (safety circuit)

| | | | |
|---|--|-----------------------|--|
| Connection designation (safety circuit) | A1, A2 | Rated control voltage | 24 V DC ± 20% |
| Current consumption | 71 mA | Status indicator | LED yellow (RLY): lights up when input circuit (A1,A2) of the device is actuated |
| Protective circuit | Reverse polarity protection, Free-wheeling diode | | |

Test inputs (safety circuit)

| | | | |
|--------------------------------------|------------|-----------------------|---------------|
| Connection designation (safety test) | T1, T2, T3 | Rated control voltage | 24 V DC ±20 % |
| Number of test inputs | 3 | | |

Output (safety circuit)

| | | | |
|--|-------------------|----------------------------------|------------------------------------|
| Connection designation (safety output) | L, N, 13, 14 | Contact design | 1 x energised to safe (NO contact) |
| Contact base material | AgNi gold flashed | Max. permitted switching voltage | 250 V AC |
| Max. switching current, external fuse | 2,5 A | Max. switching capacity | 625 VA |
| External back-up fuse | 2.5 A (slow blow) | Switch-on time | 50 ms |
| Min. switching capacity | 30 mA @ 15 V | | |

Alarm output

| | | | |
|---------------------------------------|--|--|--------|
| Connection designation (Alarm output) | M13, M14 | Digital output (Alarm output) | 1 DO |
| Solid-state type (Alarm output) | MOS-FET high-active | output current, max. (Alarm output) | 100 mA |
| Short-circuit-proof (Alarm output) | Yes, without time limit | Voltage drop at max. load (Alarm output) | 1,5 V |
| Status indicator (Alarm output) | LED red (ERR): flashes when device detects a fault, supply voltage applied and input circuit (A1, A2) not actuated | | |

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Diagnostic output

| | | | |
|--|---|--|------------------|
| Connection designation (Diagnostic output) | D21, D22 | Switching voltage, max.(Diagnostic output) | 30 V |
| Switching, current, max. (Diagnostic output) | 100 mA | switching capacity, min. (Diagnostic output) | 1 mW |
| Contact design (Diagnostic output) | 1 NC contact | Contact material (Diagnostic output) | AgNi gold-plated |
| Status indicator (Diagnostic output) | LED green (DIAG): lights up when supply voltage applied and input circuit (A1, A2) not actuated | | |

Safety-related basic specifications

| | | | |
|-----------------|---------------|-----------------|-------|
| Device type | A | Safety category | SIL 3 |
| Safety standard | EN 61508:2010 | | |

General data

| | | | |
|--------------------|---------------------------|------|-------|
| Operating altitude | ≤ 2000 m, above sea level | Rail | TS 35 |
| Colour | black, yellow | | |

Insulation coordination

| | | | |
|---|----------------|--|---------------------------------|
| Insulation coordination according to | EN 61010-2-201 | Rated voltage | 300 V |
| Pollution severity | 2 | Surge voltage category | III |
| Clearance and creepage distances for control side - load side | ≥ 6 mm | Dielectric strength for control side - load side | 3.51 kV _{eff} / 1 min. |
| Protection degree | IP20 | | |

Further details of approvals / standards

| | | | |
|-------------------------|---------|--|--|
| Certificate no. (cULus) | E141197 | | |
|-------------------------|---------|--|--|

Connection data

| | | | |
|---|---------------------|---|----------------------|
| Wire connection method | Screw connection | Stripping length, rated connection | 8 mm |
| Tightening torque, min. | 0,4 Nm | Tightening torque, max. | 0,6 Nm |
| Clamping range, rated connection | 1,5 mm ² | Clamping range, min. | 0,13 mm ² |
| Clamping range, max. | 2,5 mm ² | Wire connection cross section AWG, min. | AWG 26 |
| Wire connection cross section AWG, max. | AWG 12 | Wire cross-section, solid, min. | 0,2 mm ² |
| Wire cross-section, solid, max. | 2,5 mm ² | Wire connection cross section, finely stranded, min. | 0,2 mm ² |
| Wire connection cross section, finely stranded, max. | 2,5 mm ² | Wire connection cross-section, finely stranded with wire-end ferrules DIN 46228/4, min. | 0,2 mm ² |
| Wire connection cross-section, finely stranded with wire-end ferrules DIN 46228/4, max. | 2,5 mm ² | Conductor cross-section, flexible, AEH (DIN 46228-1), min. | 0,2 mm ² |
| Conductor cross-section, flexible, AEH (DIN 46228-1), max. | 2,5 mm ² | Blade size | size PHO |

Ratings IECEx/ATEX/cUL

| | | | |
|-------------------------|--------------------|---------------------------|------------------|
| Certificate No. (ATEX) | UL20ATEX2457X | Certificate No. (IECEX) | IECEXULD20.0032X |
| Certificate no. (cULus) | E141197 | Certificate no. (cULusEX) | E324123 |
| Marking EN 60079 | Ex ec nC IIC T4 Gc | | |

Erstellungs-Datum 12:37:33 CEST Ngày 01 tháng 5 năm 2024

Katalogstand 20.04.2024 / Technische Änderungen vorbehalten

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Classifications

| | | | |
|-------------|-------------|-------------|-------------|
| ETIM 6.0 | EC001449 | ETIM 7.0 | EC001449 |
| ETIM 8.0 | EC001449 | ETIM 9.0 | EC001449 |
| ECLASS 9.0 | 27-37-18-19 | ECLASS 9.1 | 27-37-18-19 |
| ECLASS 10.0 | 27-37-18-19 | ECLASS 11.0 | 27-37-18-19 |
| ECLASS 12.0 | 27-37-18-19 | ECLASS 13.0 | 27-37-18-19 |

Environmental Product Compliance

| | |
|------------|--------------------------------------|
| REACH SVHC | Lead 7439-92-1 |
| SCIP | 807f1906-ce90-4f93-8801-4b128b343e6b |

Approvals

Approvals



| | |
|---------------------------|------------|
| ROHS | Conform |
| UL File Number Search | UL Website |
| Certificate no. (cULus) | E141197 |
| Certificate no. (cULusEX) | E324123 |

Downloads

| | |
|---|--|
| Approval/Certificate/Document of Conformity | TÜV Safety Approved certificate Certification ATEX Certificate IECEx Certificate UL C1D2 CCC Ex certificate Declaration of Conformity |
| Engineering Data | CAD data – STEP |
| User Documentation | Safety manual – English Sicherheitshandbuch – Deutsch Beipackzettel / Package Insert – multilingual |
| Catalogues | Catalogues in PDF-format |

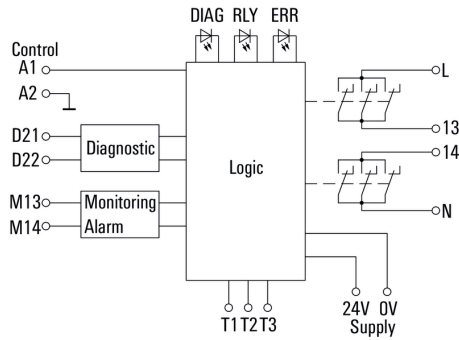
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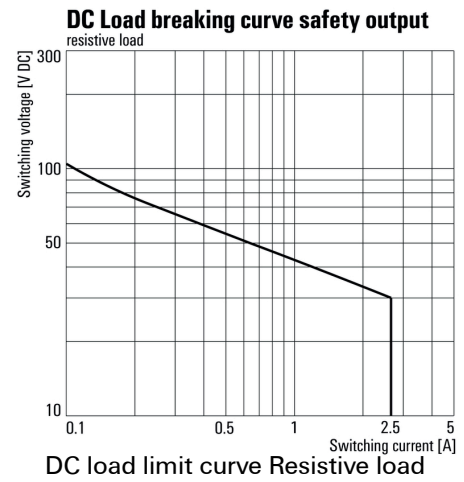
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Zeichnungen

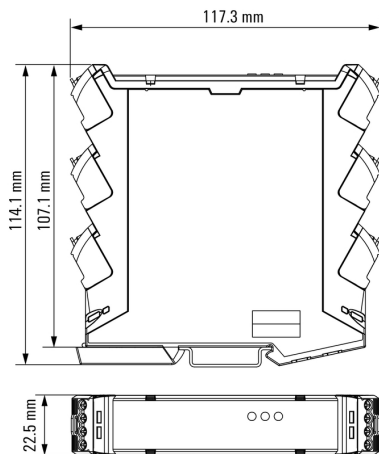
Wiring diagram



Graph



Dimensional drawing

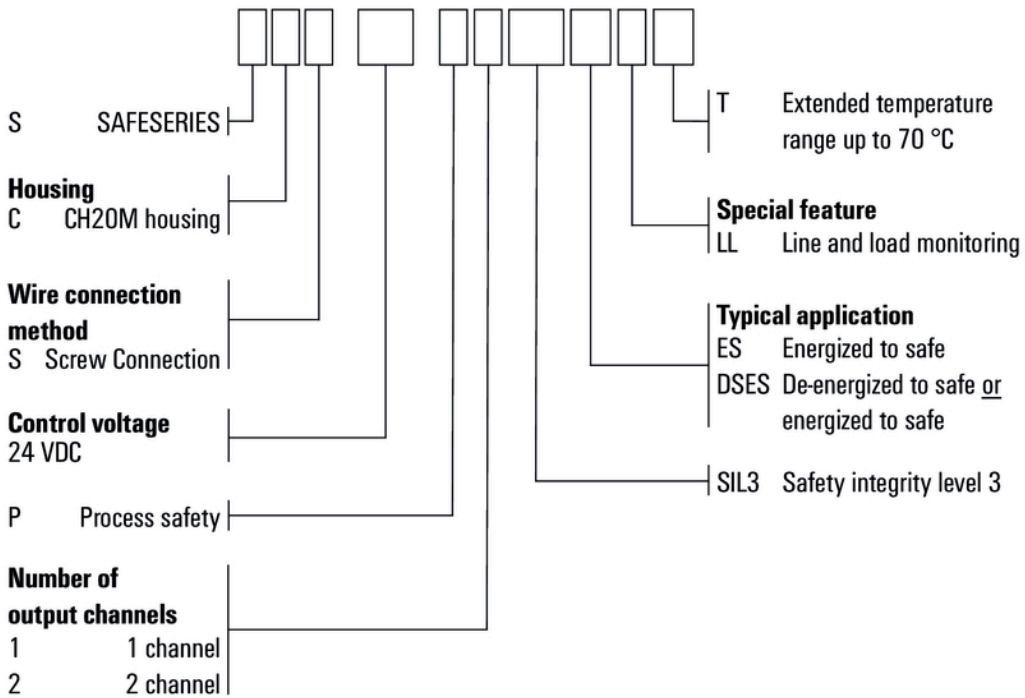


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Zeichnungen

Miscellaneous



Type codes