

Safety relays - PSR-SPP- 24DC/SDC4/2X1/B - 2981499

Please be informed that the data shown in this PDF Document is generated from our Online Catalog. Please find the complete data in the user's documentation. Our General Terms of Use for Downloads are valid (<http://phoenixcontact.com/download>)



Safety relay for emergency stop, safety door, and magnetic switches, as well as light grids, up to SIL 3 or Cat. 4, PL e according to EN ISO 13849, 2 N/O contacts, TBUS interface, automatic or manual activation, plug-in spring-cage terminal block


The figure shows a version with a screw connection

Your advantages

- ✓ Up to Cat. 4/PL e according to ISO 13849-1, SILCL 3 according to IEC 62061, SIL 3 according to IEC 61508
- ✓ Single and two-channel control
- ✓ 2 enabling current paths, 1 signaling current path
- ✓ For emergency stop and safety door monitoring, plus evaluation of light grids
- ✓ Modular system with TBUS extension



Key Commercial Data

| | |
|--------------------------------------|---|
| Packing unit | 1 pc |
| GTIN |  4 046356 051699 |
| GTIN | 4046356051699 |
| Weight per Piece (excluding packing) | 197.900 g |
| Custom tariff number | 85371098 |
| Country of origin | Germany |

Technical data

Note

| | |
|-------------------------|---|
| Utilization restriction | EMC: class A product, see manufacturer's declaration in the download area |
|-------------------------|---|

Dimensions

| | |
|--------|----------|
| Width | 22.5 mm |
| Height | 112 mm |
| Depth | 114.5 mm |

Safety relays - PSR-SPP- 24DC/SDC4/2X1/B - 2981499

Technical data

Ambient conditions

| | |
|--|---|
| Ambient temperature (operation) | -20 °C ... 55 °C |
| Ambient temperature (storage/transport) | -40 °C ... 70 °C |
| Max. permissible relative humidity (operation) | 75 % (on average, 85% infrequently, non-condensing) |
| Max. permissible humidity (storage/transport) | 75 % (on average, 85% infrequently, non-condensing) |
| Maximum altitude | ≤ 2000 m (Above sea level) |

Input data

| | |
|---|---|
| Nominal input voltage U_N | 24 V DC |
| Input voltage range in reference to U_N | 0.85 ... 1.1 |
| Typical input current at U_N | 70 mA |
| Voltage at input/start and feedback circuit | approx. 24 V DC |
| Typical response time | 20 ms (manual start) |
| | 150 ms (automatic start) |
| Typical release time | 10 ms |
| Recovery time | 1 s |
| Max. permissible overall conductor resistance | 50 Ω (Input and start circuits at U_N) |

Output data

| | |
|--|-----------------------------------|
| Contact type | 2 enabling current paths |
| | 1 semiconductor signaling output |
| Contact material | AgSnO ₂ |
| Maximum switching voltage | 250 V AC/DC |
| Minimum switching voltage | 15 V AC/DC |
| Limiting continuous current | 6 A (N/O contact) |
| | 100 mA (signal output) |
| Maximum inrush current | 6 A |
| Inrush current, minimum | 25 mA |
| Interrupting rating (ohmic load) max. | 144 W (24 V DC, $\tau = 0$ ms) |
| | 288 W (48 V DC, $\tau = 0$ ms) |
| | 77 W (110 V DC, $\tau = 0$ ms) |
| | 88 W (220 V DC, $\tau = 0$ ms) |
| | 1500 VA (250 V AC, $\tau = 0$ ms) |
| Maximum interrupting rating (inductive load) | 48 W (24 V DC, $\tau = 40$ ms) |
| | 40 W (48 V DC, $\tau = 40$ ms) |
| | 35 W (110 V DC, $\tau = 40$ ms) |
| | 33 W (220 V DC, $\tau = 40$ ms) |
| Switching capacity min. | 0.4 W |
| Mechanical service life | approx. 10 ⁷ cycles |
| Switching capacity (360/h cycles) | 6 A (24 V DC) |
| | 5 A (230 V (AC15)) |
| Output fuse | 10 A gL/gG NEOZED (N/O contact) |

Safety relays - PSR-SPP- 24DC/SDC4/2X1/B - 2981499

Technical data

Output data

| | |
|--|--|
| | Miniature circuit breaker C6 (24 V / 20 A power supply unit) |
|--|--|

General

| | |
|---|---|
| Relay type | Electromechanical relay with forcibly guided contacts in accordance with EN 50205 |
| Nominal operating mode | 100% operating factor |
| Net weight | 197.9 g |
| Mounting position | any |
| Mounting type | DIN rail mounting |
| Degree of protection | IP20 |
| | IP54 |
| Min. degree of protection of inst. location | IP54 |
| Housing color | yellow |

Connection data

| | |
|---------------------------------------|------------------------|
| Connection method | Spring-cage connection |
| pluggable | Yes |
| Conductor cross section solid min. | 0.2 mm ² |
| Conductor cross section solid max. | 1.5 mm ² |
| Conductor cross section flexible min. | 0.2 mm ² |
| Conductor cross section flexible max. | 1.5 mm ² |
| Conductor cross section AWG min. | 24 |
| Conductor cross section AWG max. | 16 |
| Stripping length | 8 mm |

Safety-related characteristic data

| | |
|---|-------------------------|
| Stop category | 0 |
| Designation | IEC 61508 - High demand |
| Safety Integrity Level (SIL) | 3 |
| Designation | IEC 61508 - Low demand |
| Safety Integrity Level (SIL) | 3 |
| Designation | EN ISO 13849 |
| Performance level (PL) | e |
| Category | 4 (Undelayed contacts) |
| Designation | EN 62061 |
| Safety Integrity Level Claim Limit (SIL CL) | 3 |

Standards and Regulations

| | |
|--------------------------------|--|
| Designation | Air clearances and creepage distances between the power circuits |
| Standards/regulations | DIN EN 50178/VDE 0160 |
| Rated insulation voltage | 250 V |
| Rated surge voltage/insulation | 4 kV / Basic isolation, (safe isolation, reinforced insulation and 6 kV between input circuit and enabling current paths.) |
| Degree of pollution | 2 |

Safety relays - PSR-SPP- 24DC/SDC4/2X1/B - 2981499

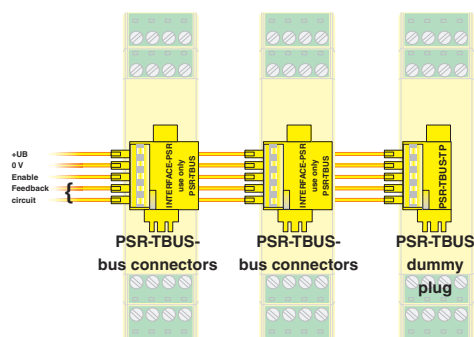
Technical data

Standards and Regulations

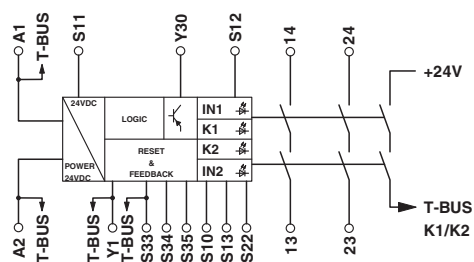
| | |
|----------------------------------|---|
| Overvoltage category | III |
| Environmental Product Compliance | |
| China RoHS | Environmentally friendly use period: unlimited = EFUP-e |
| | No hazardous substances above threshold values |

Drawings

Connection diagram



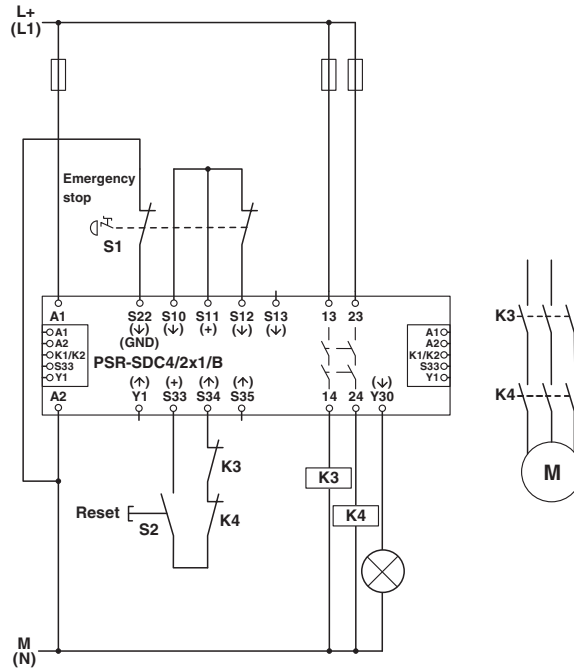
Circuit diagram



PSR-TBUS DIN rail connectors are used for cross-wiring between the modules.

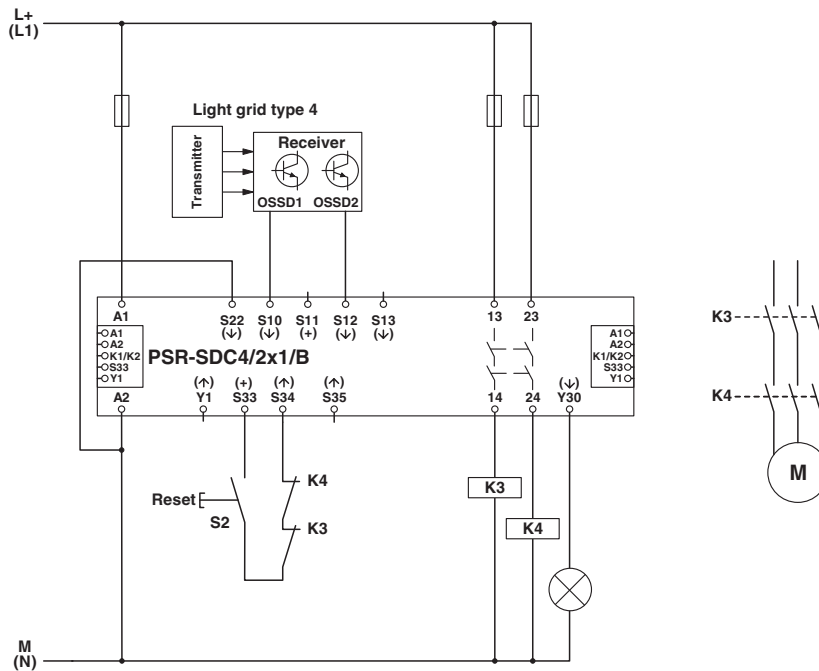
Safety relays - PSR-SPP- 24DC/SDC4/2X1/B - 2981499

Circuit diagram



Two-channel emergency stop monitoring

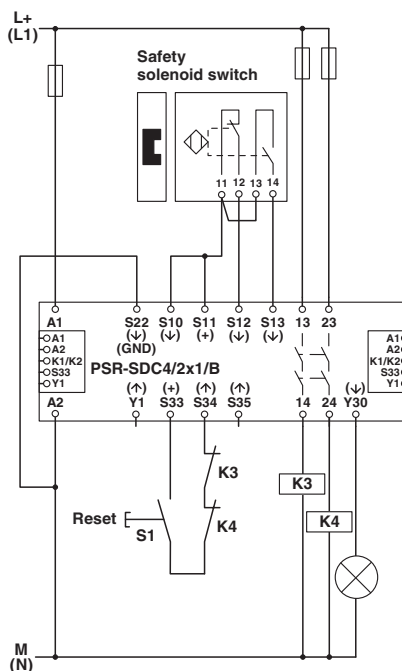
Circuit diagram



Light grid monitoring

Safety relays - PSR-SPP- 24DC/SDC4/2X1/B - 2981499

Circuit diagram



Two-channel magnetic switch monitoring

Classifications

eCl@ss

| | |
|------------|----------|
| eCl@ss 4.0 | 27371102 |
| eCl@ss 4.1 | 27371102 |
| eCl@ss 5.0 | 27371901 |
| eCl@ss 5.1 | 27371900 |
| eCl@ss 6.0 | 27371800 |
| eCl@ss 7.0 | 27371819 |
| eCl@ss 8.0 | 27371819 |
| eCl@ss 9.0 | 27371819 |

ETIM

| | |
|----------|----------|
| ETIM 2.0 | EC001449 |
| ETIM 3.0 | EC001449 |
| ETIM 4.0 | EC001449 |
| ETIM 5.0 | EC001449 |
| ETIM 6.0 | EC001449 |

UNSPSC

| | |
|---------------|----------|
| UNSPSC 6.01 | 30211901 |
| UNSPSC 7.0901 | 39121501 |
| UNSPSC 11 | 39121501 |

Safety relays - PSR-SPP- 24DC/SDC4/2X1/B - 2981499

Classifications

UNSPSC

| | |
|--------------|----------|
| UNSPSC 12.01 | 39121501 |
| UNSPSC 13.2 | 39121501 |

Approvals

Approvals

Approvals

Functional Safety / Functional Safety / UL Listed / cUL Listed / Functional Safety / EAC / cULus Listed

Ex Approvals

Approval details

| | | |
|-------------------|--|------------------|
| Functional Safety | | 968/EZ 369.02/15 |
|-------------------|--|------------------|

| | | |
|-------------------|--|------------------|
| Functional Safety | | 968/EZ 369.02/15 |
|-------------------|--|------------------|

| | | | |
|-----------|--|---|---------------|
| UL Listed | | http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm | FILE E 140324 |
|-----------|--|---|---------------|

| | | | |
|------------|--|---|---------------|
| cUL Listed | | http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm | FILE E 140324 |
|------------|--|---|---------------|

| | | |
|-------------------|--|-------------------|
| Functional Safety | | 01/205/0660.01/15 |
|-------------------|--|-------------------|

| | | |
|-----|--|--------------------------|
| EAC | | RU C- DE.A*30.B.01082 |
|-----|--|--------------------------|

Safety relays - PSR-SPP- 24DC/SDC4/2X1/B - 2981499

Approvals

cULus Listed



Accessories

Accessories

DIN rail connector

DIN rail bus connectors - PSR-TBUS - 2890425



DIN rail connector for safety switching devices, for supplying/controlling/monitoring (depending on the module)

DIN rail bus connectors - PSR-TBUS-TP - 2981716



Blind plug for the PSR-TBUS DIN rail connector used with the modular safety relay system (PSR-SDC4)