

Safety relays - PSR-SPP- 24UC/ESAM4/2X1/1X2 - 2900526

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 and safety door monitoring up to SIL 3 or Cat. 4, PL e in accordance with EN ISO 13849, 1- or 2-channel operation, 2 enabling current paths, nominal input voltage: 24 V AC/DC, pluggable Push-in terminal block

The figure shows a version with a screw connection

Your advantages

- Up to Cat.4/PL e according to EN ISO 13849-1, SILCL 3 according to EN 62061, SIL 3 according to IEC 61508
- Manually monitored and automatic activation in a single device
- Single and two-channel control
- Reinforced insulation
- 2 enabling current paths, 1 signaling current path



Key Commercial Data

| | |
|--------------|---------------|
| Packing unit | 1 pc |
| GTIN | |
| GTIN | 4046356515665 |

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 |

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) |

Safety relays - PSR-SPP- 24UC/ESAM4/2X1/1X2 - 2900526

Technical data

Ambient conditions

| | |
|---|---|
| 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 AC/DC |
| Input voltage range in reference to U_N | 0.85 ... 1.1 |
| Typical input current at U_N | 140 mA AC |
| | 65 mA DC |
| 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 | 45 ms (single-channel) |
| | 10 ms (two-channel) |
| Concurrence input 1/2 | ∞ |
| Recovery time | 1 s |
| Operating voltage display | Green LED |
| Status display | Green LED |
| Protective circuit | Surge protection Suppressor diode |
| Max. permissible overall conductor resistance | approx. 50 Ω (Input and start circuits at U_N) |

Output data

| | |
|--|---|
| Contact type | 2 enabling current paths |
| | 1 signaling current path |
| Contact material | AgSnO ₂ , + 0.2 μm Au |
| Maximum switching voltage | 250 V AC/DC |
| Minimum switching voltage | 15 V AC/DC |
| Limiting continuous current | 6 A (N/O contact) |
| Maximum inrush current | 6 A |
| Inrush current, minimum | 25 mA |
| Sq. Total current | $72 \text{ A}^2 (I_{TH}^2 = I_1^2 + I_2^2)$ |
| Interrupting rating (ohmic load) max. | 144 W (24 V DC, τ = 0 ms) |
| | 288 W (48 V DC, τ = 0 ms) |
| | 77 W (110 V DC, τ = 0 ms) |
| | 88 W (220 V DC, τ = 0 ms) |
| | 1500 VA (250 V AC, τ = 0 ms) |
| Maximum interrupting rating (inductive load) | 48 W (24 V DC, τ = 40 ms) |
| | 40 W (48 V DC, τ = 40 ms) |
| | 35 W (110 V DC, τ = 40 ms) |
| | 35 W (220 V DC, τ = 40 ms) |
| Switching capacity min. | 0.4 W |
| Mechanical service life | approx. 10 ⁷ cycles |

Safety relays - PSR-SPP- 24UC/ESAM4/2X1/1X2 - 2900526

Technical data

Output data

| | |
|-----------------------------------|---------------------------------|
| Switching capacity (360/h cycles) | 6 A (24 V DC) |
| | 5 A (230 V AC) |
| Output fuse | 10 A gL/gG NEOZED (N/O contact) |
| | 6 A gL/gG NEOZED (N/C contact) |

General

| | |
|---|--|
| Relay type | Electromechanical relay with force-guided contacts in accordance with IEC/EN 61810-3 |
| Nominal operating mode | 100% operating factor |
| Net weight | 222.2 g |
| Mounting position | any |
| Mounting type | DIN rail mounting |
| Degree of protection | IP20 |
| Min. degree of protection of inst. location | IP54 |
| Housing color | yellow |

Connection data

| | |
|--|--|
| Connection method | Push-in connection |
| pluggable | Yes |
| Conductor cross section solid | 0.2 mm ² ... 1.5 mm ² |
| Conductor cross section flexible | 0.2 mm ² ... 1.5 mm ² |
| Conductor cross-section AWG | 24 ... 16 |
| Conductor cross-section flexible with ferrule without plastic sleeve | 0.25 mm ² ... 1.5 mm ² (only together with CRIMPFOX 6) |
| Conductor cross-section flexible with ferrule and plastic sleeve | 0.25 mm ² ... 1.5 mm ² (only together with CRIMPFOX 6) |
| 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 |
| Designation | EN 62061 |
| Safety Integrity Level Claim Limit (SIL CL) | 3 |
| Designation | EN 50156 |
| Safety Integrity Level (SIL) | 3 |

Standards and Regulations

| | |
|-----------------------|--|
| Designation | Air clearances and creepage distances between the power circuits |
| Standards/regulations | DIN EN 50178/VDE 0160 |

Safety relays - PSR-SPP- 24UC/ESAM4/2X1/1X2 - 2900526

Technical data

Standards and Regulations

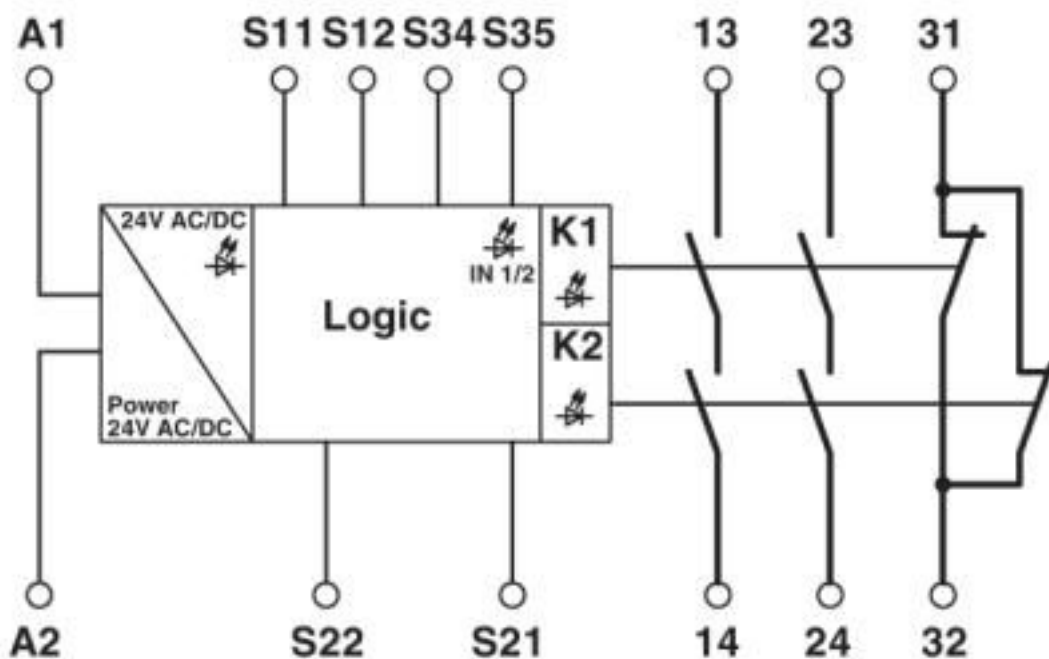
| | |
|--------------------------------|---|
| Rated insulation voltage | 250 V |
| Rated surge voltage/insulation | 6 kV / Safe isolation, increased insulation |
| Degree of pollution | 2 |
| Overvoltage category | III |
| Shock | 15g |
| Vibration (operation) | 10 Hz ... 150 Hz, 2g |

Environmental Product Compliance

| | |
|------------|---|
| REACH SVHC | Lead 7439-92-1 |
| China RoHS | Environmentally Friendly Use Period = 50 years |
| | For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration" |

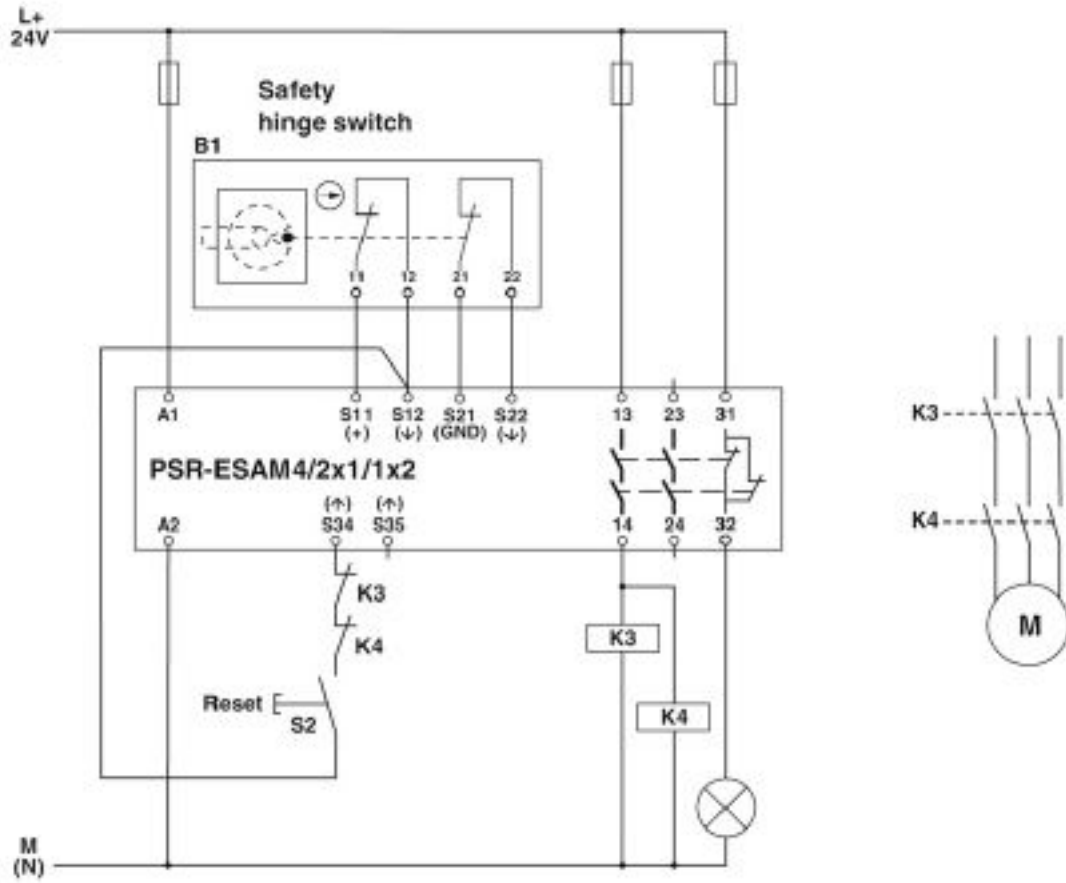
Drawings

Circuit diagram



Safety relays - PSR-SPP- 24UC/ESAM4/2X1/1X2 - 2900526

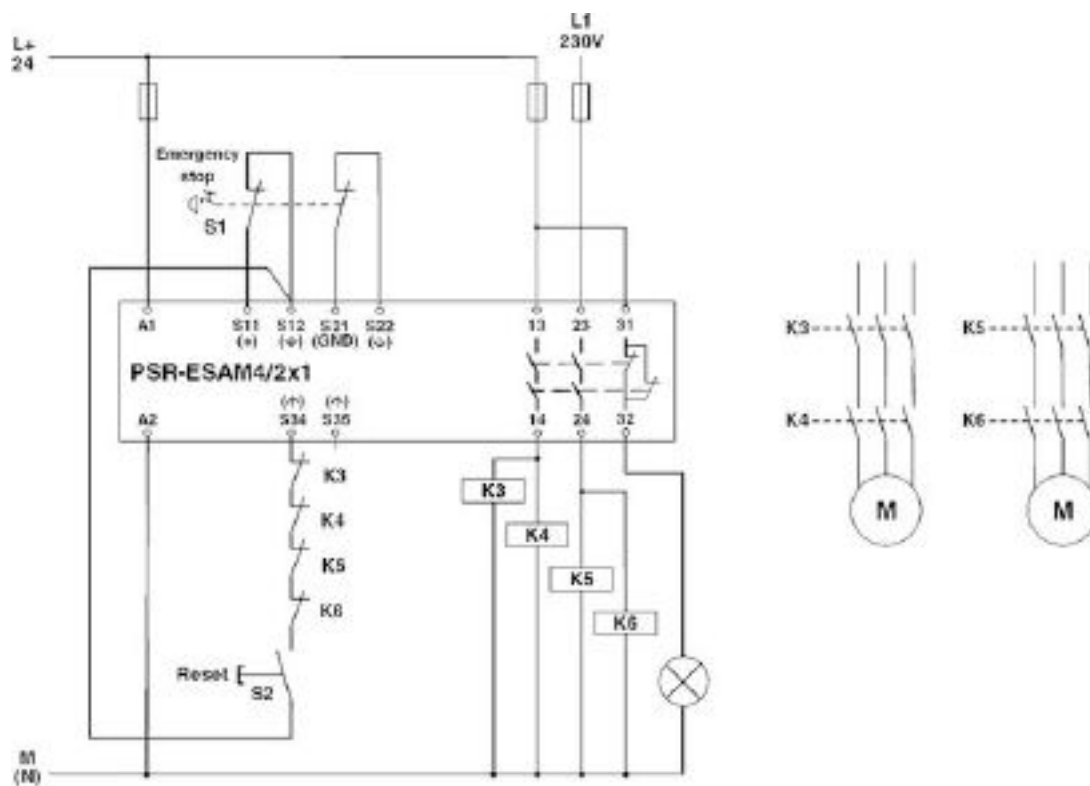
Circuit diagram



Hinge switch

Safety relays - PSR-SPP- 24UC/ESAM4/2X1/1X2 - 2900526

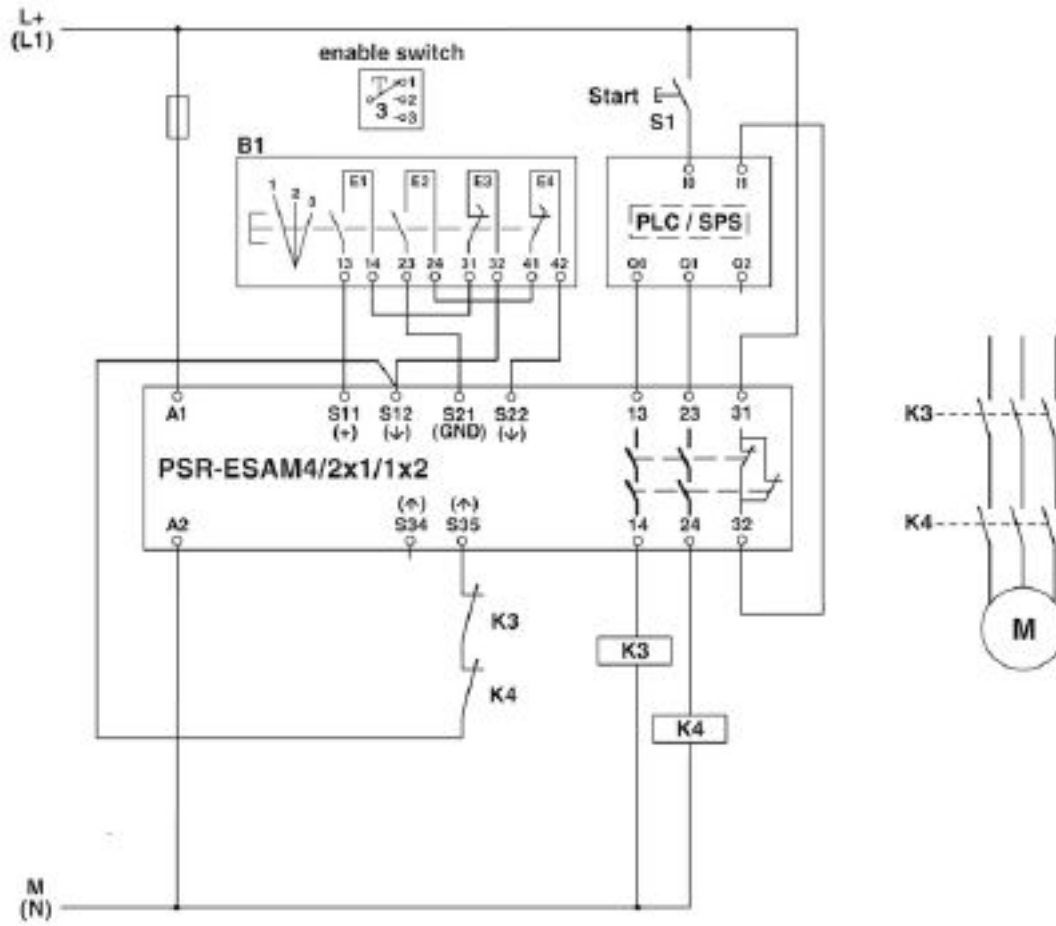
Circuit diagram



Two-channel emergency stop monitoring

Safety relays - PSR-SPP- 24UC/ESAM4/2X1/1X2 - 2900526

Circuit diagram



3-stage enable switch

Classifications

eCl@ss

| | |
|---------------|----------|
| eCl@ss 10.0.1 | 27371819 |
| eCl@ss 4.0 | 40020600 |
| eCl@ss 4.1 | 40020600 |
| eCl@ss 5.0 | 27371900 |
| 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 3.0 | EC001449 |
| ETIM 4.0 | EC001449 |

Safety relays - PSR-SPP- 24UC/ESAM4/2X1/1X2 - 2900526

Classifications

ETIM

| | |
|----------|----------|
| ETIM 5.0 | EC001449 |
| ETIM 6.0 | EC001449 |
| ETIM 7.0 | EC001449 |

UNSPSC

| | |
|---------------|----------|
| UNSPSC 6.01 | 30211901 |
| UNSPSC 7.0901 | 39121501 |
| UNSPSC 11 | 39121501 |
| UNSPSC 12.01 | 39121501 |
| UNSPSC 13.2 | 39121501 |
| UNSPSC 18.0 | 39122205 |
| UNSPSC 19.0 | 39122205 |
| UNSPSC 20.0 | 39122205 |
| UNSPSC 21.0 | 39122205 |

Approvals

Approvals

Approvals

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

Ex Approvals

Approval details


| | | | |
|-----------|--|---|---------------|
| 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 | | | 01/205/5117.01/16 |
|-------------------|--|--|-------------------|

Safety relays - PSR-SPP- 24UC/ESAM4/2X1/1X2 - 2900526

Approvals

| | | |
|-----|---|---------------|
| EAC |  | EAC-Zulassung |
|-----|---|---------------|

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

| | | |
|--------------|---|--|
| cULus Listed |  | |
|--------------|---|--|

Phoenix Contact 2020 © - all rights reserved
<http://www.phoenixcontact.com>

PHOENIX CONTACT GmbH & Co. KG
Flachsmarktstr. 8
32825 Blomberg
Germany
Tel. +49 5235 300
Fax +49 5235 3 41200
<http://www.phoenixcontact.com>