

PSR-SCP- 24UC/ESM4/2X1/1X2 - Safety relays



2963718

<https://www.phoenixcontact.com/in/products/2963718>

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 documentation. Our General Terms of Use for Downloads are valid.



Safety relay for emergency stop and safety door monitoring up to SIL 3 or Cat. 4, PL e in accordance with EN ISO 13849, 2-channel operation, 2 enabling current paths, nominal input voltage: 24 V DC, plug-in screw terminal block

Your advantages

- Up to Cat. 4/PL e in accordance with EN ISO 13849-1, SIL 3 in accordance with EN 62061, SIL 3 in accordance with IEC 61508
- 2 channel control
- 2 enabling current paths, 1 signaling current path

Commercial Data

| | |
|--------------------------------------|-------------------|
| Item number | 2963718 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Sales Key | DNA |
| Product Key | DNA112 |
| Catalog Page | Page 20 (IF-2009) |
| GTIN | 4017918599379 |
| Weight per Piece (including packing) | 192.61 g |
| Weight per Piece (excluding packing) | 192.1 g |
| Customs tariff number | 85371098 |
| Country of origin | DE |

Technical Data

Product properties

| | |
|-------------------------|--|
| Product type | Safety relays |
| Product family | PSRclassic |
| Application | Emergency stop |
| | Safety door |
| Mechanical service life | approx. 10^7 cycles |
| Relay type | Electromechanical relay with force-guided contacts in accordance with IEC/EN 61810-3 |

Electrical properties

| | |
|---|---|
| Maximum power dissipation for nominal condition | 16.44 W ($U_S = 26.4$ V, $I_L^2 = 72$ A ² , $P_{Total\ max} = 2.04$ W + 14.4 W) |
| Nominal operating mode | 100% operating factor |

Air clearances and creepage distances between the power circuits

| | |
|--------------------------------|---------------------------------------|
| Rated insulation voltage | 250 V |
| Rated surge voltage/insulation | See section "Insulation coordination" |

Input data

General

| | |
|---|--|
| Rated control circuit supply voltage U_S | 24 V DC -15 % / +10 % |
| Power consumption at U_S | typ. 1.68 W (DC) |
| Rated control supply current I_S | typ. 70 mA |
| Input voltage range in reference to U_N | 0.85 ... 1.1 |
| Typical input current at U_N | 70 mA DC |
| Inrush current | < 3.5 A ($\Delta t = 3$ ms at U_S) |
| | < 100 mA ($\Delta t = 500$ ms, with U_S/I_x at S12) |
| | > -100 mA ($\Delta t = 300$ ms, with U_S/I_x at S22) |
| | < 6 mA (with U_S/I_x to S34) |
| Current consumption | typ. 38 mA (S12) |
| | typ. -38 mA (S22) |
| | typ. 1 mA (with U_S/I_x to S34) |
| Voltage at input/start and feedback circuit | approx. 24 V DC |
| Filter time | 5 ms (at A1 in the event of voltage dips at U_S) |
| | No test pulses permitted |
| Typical response time | 100 ms (Monitored/manual start) |
| Typical release time | 20 ms (on demand via the sensor circuit) |
| | 45 ms (on demand via A1) |
| Concurrence | ∞ |
| Recovery time | 1 s (following demand of the safety function) |
| | < 1 s (Boot time) |
| Protective circuit | Surge protection; Suppressor diode |
| Max. permissible overall conductor resistance | approx. 50 Ω (Input and start circuits at U_S) |

PSR-SCP- 24UC/ESM4/2X1/1X2 - Safety relays



2963718

<https://www.phoenixcontact.com/in/products/2963718>

| | |
|---------------------------|-----------|
| Operating voltage display | Green LED |
| Status display | Green LED |

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 |
| Minimum switching voltage | 10 V AC/DC |
| Limiting continuous current | 6 A (N/O contact) |
| Maximum inrush current | 6 A |
| Inrush current, minimum | 10 mA |
| Sq. Total current | 72 A ² (Enabling current paths) |
| | 36 A ² (Signaling current path 31/32) |
| Interrupting rating (ohmic load) max. | see load limit curve |
| Switching capacity min. | 100 mW |
| Switching capacity in accordance with IEC 60947-5-1 | 6 A (DC13, enabling current paths) |
| | 5 A (AC15, enabling current paths) |
| | 2 A (DC13, signaling current paths) |
| | 1.5 A (AC15, signaling current paths) |
| Output fuse | 10 A gL/gG (Enabling current paths) |
| | 4 A gL/gG (Low-demand enabling current paths) |
| | 6 A gL/gG (Signaling current path) |

Connection data

Connection technology

| | |
|-----------|-----|
| pluggable | yes |
|-----------|-----|

Conductor connection

| | |
|----------------------------------|---|
| Connection method | Screw connection |
| Conductor cross section rigid | 0.2 mm ² ... 2.5 mm ² |
| Conductor cross section flexible | 0.2 mm ² ... 2.5 mm ² |
| Conductor cross-section AWG | 24 ... 12 |
| Stripping length | 7 mm |
| Screw thread | M3 |

Dimensions

| | |
|--------|----------|
| Width | 22.5 mm |
| Height | 99 mm |
| Depth | 114.5 mm |

Material specifications

| | |
|------------------|-----------|
| Housing material | Polyamide |
|------------------|-----------|

Characteristics

PSR-SCP- 24UC/ESM4/2X1/1X2 - Safety relays



2963718

<https://www.phoenixcontact.com/in/products/2963718>

Safety data

| | |
|---------------|---|
| Stop category | 0 |
|---------------|---|

Safety data: EN ISO 13849

| | |
|------------------------|--|
| Category | 4 |
| Performance level (PL) | e (5 A DC13; 5 A AC15; 8760 switching cycles/year) |

Safety data: IEC 61508 - High demand

| | |
|---|--|
| Equipment type | Type A |
| Safety Integrity Level (SIL) | 3 |
| Probability of a hazardous failure per hour (PFH _D) | 5.5×10^{-10} (5 A DC13; 5 A AC15; 8760 switching cycles/year) |
| Proof test interval | 240 Months |
| Duration of use | 240 Months |

Safety data: IEC 61508 - Low demand

| | |
|--|-----------------------|
| Equipment type | Type A |
| Safety Integrity Level (SIL) | 3 |
| Probability of a hazardous failure on demand (PFD _{AVG}) | 1.37×10^{-4} |
| Proof test interval | 66 Months |

Environmental and real-life conditions

Ambient conditions

| | |
|--|---|
| Degree of protection | IP20 |
| Min. degree of protection of inst. location | IP54 |
| Ambient temperature (operation) | -20 °C ... 55 °C (observe derating) |
| Ambient temperature (storage/transport) | -40 °C ... 70 °C |
| Maximum altitude | ≤ 2000 m (Above sea level) |
| Max. permissible humidity (storage/transport) | 75 % (on average, 85% infrequently, non-condensing) |
| Max. permissible relative humidity (operation) | 75 % (on average, 85% infrequently, non-condensing) |
| Shock | 15g |
| Vibration (operation) | 10 Hz ... 150 Hz, 2g |

Approvals

CE

| | |
|----------------|--------------|
| Identification | CE-compliant |
|----------------|--------------|

Standards and regulations

Air clearances and creepage distances between the power circuits

| | |
|-----------------------|----------------|
| Standards/regulations | DIN EN 60947-1 |
|-----------------------|----------------|

Mounting

| | |
|-----------------------|------------------------|
| Mounting type | DIN rail mounting |
| Assembly instructions | See derating curve |
| Mounting position | vertical or horizontal |

PSR-SCP- 24UC/ESM4/2X1/1X2 - Safety relays



2963718

<https://www.phoenixcontact.com/in/products/2963718>

| Connection method | Screw connection |
|-------------------|------------------|
|-------------------|------------------|

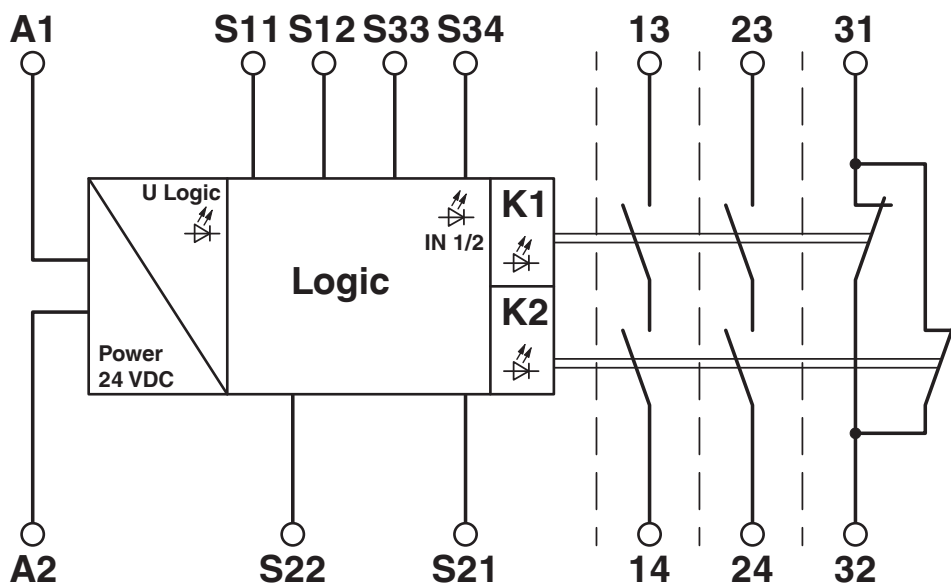
PSR-SCP- 24UC/ESM4/2X1/1X2 - Safety relays

2963718

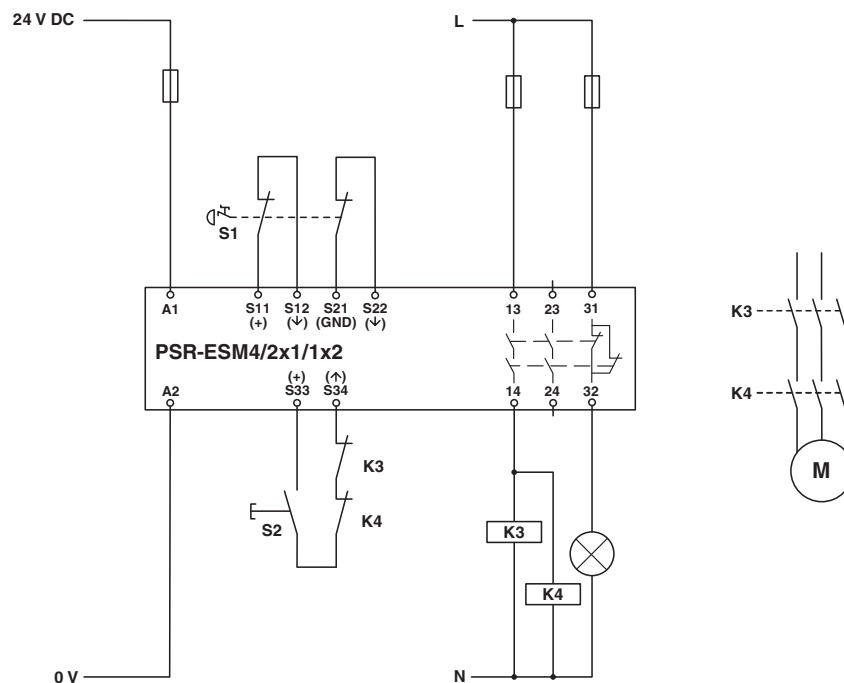
<https://www.phoenixcontact.com/in/products/2963718>

Drawings

Circuit diagram



Circuit diagram



PSR-SCP- 24UC/ESM4/2X1/1X2 - Safety relays



2963718

<https://www.phoenixcontact.com/in/products/2963718>

Approvals



EAC

Approval ID: EAC-Zulassung



EAC

Approval ID: RU C-DE.A*30.B.01082



UL Listed

Approval ID: FILE E 140324



cUL Listed

Approval ID: FILE E 140324



Functional Safety

Approval ID: 01/205/0652.05/22



Functional Safety

Approval ID: 01/205/0652.05/22



cUL Listed

Approval ID: FILE E 140324



UL Listed

Approval ID: FILE E 140324



EAC

Approval ID: TR_TS_D_00573_c



Functional Safety

Approval ID: 968/EZ 404.07/22



Functional Safety

Approval ID: 968/EZ 404.07/22

PSR-SCP- 24UC/ESM4/2X1/1X2 - Safety relays



2963718

<https://www.phoenixcontact.com/in/products/2963718>

Classifications

ECLASS

| | |
|-------------|----------|
| ECLASS-11.0 | 27371819 |
| ECLASS-13.0 | 27371819 |
| ECLASS-12.0 | 27371819 |

ETIM

| | |
|----------|----------|
| ETIM 8.0 | EC001449 |
|----------|----------|

UNSPSC

| | |
|-------------|----------|
| UNSPSC 21.0 | 39122205 |
|-------------|----------|

PSR-SCP- 24UC/ESM4/2X1/1X2 - Safety relays



2963718

<https://www.phoenixcontact.com/in/products/2963718>

Environmental Product Compliance

| | |
|------------|--|
| REACH SVHC | Lead 7439-92-1 |
| China RoHS | Environmentally Friendly Use Period = 50 years |
| | For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads" |

PSR-SCP- 24UC/ESM4/2X1/1X2 - Safety relays



2963718

<https://www.phoenixcontact.com/in/products/2963718>

Accessories

CP-MSTB - Coding profile

1734634

<https://www.phoenixcontact.com/in/products/1734634>

Coding profile, is inserted into the slot on the plug or inverted header, red insulating material



CR-MSTB - Coding section

1734401

<https://www.phoenixcontact.com/in/products/1734401>

Coding section, inserted into the recess in the header or the inverted plug, red insulating material



Phoenix Contact 2023 © - all rights reserved

<https://www.phoenixcontact.com>

PHOENIX CONTACT (I) Pvt. Ltd.

A-58/2, Okhla Industrial Area, Phase - II, New Delhi-110 020

+91.1275.71420

info@phoenixcontact.co.in