

PSR-SCP- 24DC/ESD/4X1/30 - Safety relays



2981800

<https://www.phoenixcontact.com/us/products/2981800>

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, automatic or manual activation, 2 N/O contacts with a dropout delay of 0.1 s ... 30 s, plug-in screw connection terminal block

Your advantages

- Maximum of 3 undelayed and 2 dropout delay contacts
- Manually monitored and automatic activation
- Up to Cat. 3/4 and PL d/e in accordance with EN ISO 13849-1, SIL 3 in accordance with EN IEC 62061, SIL 3 in accordance with IEC 61508
- For emergency stop and safety door monitoring, plus evaluation of light grids
- 1- and 2-channel control
- Protective labels to prevent manipulation of the set time (PSR-ESD-300) or electronic protection against manipulation (PSR-ESD-30)
- Fixed delay times of 0.1 s ... 300 s

Commercial data

| | |
|--------------------------------------|---------------------|
| Item number | 2981800 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Sales key | DN01 |
| Product key | DNA131 |
| Catalog page | Page 230 (C-6-2019) |
| GTIN | 4046356117968 |
| Weight per piece (including packing) | 229.3 g |
| Weight per piece (excluding packing) | 198.9 g |
| Customs tariff number | 85371098 |
| Country of origin | DE |

Technical data

Product properties

| | |
|-------------------------|--|
| Product type | Safety relays |
| Product family | PSRclassic |
| Set comprises | 1217839 PSR-SCP-24DC/ESD/4X1/30-SET35 |
| Application | Emergency stop |
| | Safety door |
| | Light grid |
| 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 | 1.8 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 | 4 kV / basic insulation |

Input data

General

| | |
|---|--|
| 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 | 75 mA DC |
| Voltage at input/start and feedback circuit | approx. 24 V DC |
| Typical response time | 150 ms (Monitored/manual and auto-start) |
| Typical release time | 20 ms (Undelayed contacts) |
| | 100 ms (delayed contacts) |
| Typical release time range | 0.1 s ... 30 s |
| Recovery time | 330 ms (Restart) |
| | 1 s (Electric torque) |
| Protective circuit | Suppressor diode, 33 V DC |
| Max. permissible overall conductor resistance | 500 Ω (Input and reset circuit at U_N) |
| Operating voltage display | Green LED |
| Status display | LED K1/K2 and K3(t)/K4(t), green |

Output data

| | |
|-----------------------------|--------------------------|
| Contact switching type | 4 enabling current paths |
| 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) |

PSR-SCP- 24DC/ESD/4X1/30 - Safety relays



2981800

<https://www.phoenixcontact.com/us/products/2981800>

| | |
|--|--------------------------------------|
| Maximum inrush current | 6 A |
| Inrush current, minimum | 25 mA |
| Sq. Total current | 120 A ² (see to derating) |
| Interrupting rating (ohmic load) max. | 144 W (24 V DC, $\tau = 0$ ms) |
| | 288 W (48 V DC, $\tau = 0$ ms) |
| | 90 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) | 42 W (24 V DC, $\tau = 40$ ms) |
| | 33 W (48 V DC, $\tau = 40$ ms) |
| | 25 W (110 V DC, $\tau = 40$ ms) |
| | 23 W (220 V DC, $\tau = 40$ ms) |
| Switching capacity min. | 0.4 W |
| Switching capacity (360/h cycles) | on request |
| Switching capacity (3600/h cycles) | 3 A (24 V (DC13)) |
| | 3 A (230 V (AC15)) |
| Output fuse | 10 A gL/gG NEOZED (N/O contact) |

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

Safety data

| | |
|---------------|---|
| Stop category | 0 |
| | 1 |

Safety data: EN ISO 13849

PSR-SCP- 24DC/ESD/4X1/30 - Safety relays



2981800

<https://www.phoenixcontact.com/us/products/2981800>

| | |
|------------------------|---|
| Category | 4 |
| Performance level (PL) | e |

Safety data

| | |
|------------------------------|---|
| Safety Integrity Level (SIL) | 3 |
|------------------------------|---|

Safety data: EN IEC 62061

| | |
|------------------------------|---|
| Safety Integrity Level (SIL) | 3 |
|------------------------------|---|

Environmental and real-life conditions

Ambient conditions

| | |
|--|---|
| Degree of protection | IP20 |
| Min. degree of protection of inst. location | IP54 |
| Ambient temperature (operation) | -20 °C ... 45 °C |
| 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 |

Standards and regulations

Air clearances and creepage distances between the power circuits

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

Mounting

| | |
|-------------------|-------------------|
| Mounting type | DIN rail mounting |
| Mounting position | any |
| Connection method | Screw connection |

PSR-SCP- 24DC/ESD/4X1/30 - Safety relays



2981800

<https://www.phoenixcontact.com/us/products/2981800>

Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2981800>



EAC

Approval ID: TR_TS_D_00573_c



UL Listed

Approval ID: FILE E 140324



cUL Listed

Approval ID: FILE E 140324

Functional Safety

Approval ID: 968/EZ322.05/21

cULus Listed

PSR-SCP- 24DC/ESD/4X1/30 - Safety relays



2981800

<https://www.phoenixcontact.com/us/products/2981800>

Classifications

ECLASS

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

ETIM

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

UNSPSC

| | |
|-------------|----------|
| UNSPSC 21.0 | 39122200 |
|-------------|----------|

2981800
<https://www.phoenixcontact.com/us/products/2981800>

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" |

Phoenix Contact 2023 © - all rights reserved
<https://www.phoenixcontact.com>

Phoenix Contact USA
586 Fulling Mill Road
Middletown, PA 17057, United States
(+717) 944-1300
info@phoenixcon.com