

# Safety relays - PSR-SCP- 24UC/ESAM4/8X1/1X2



2963912

<https://www.phoenixcontact.com/de/produkte/2963912>

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, 1- or 2-channel operation, 8 enabling current paths,  $U_S = 24 \text{ V DC}$ , 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 IEC 62061, SIL 3 in accordance with IEC 61508
- Manually monitored and automatic activation in a single device
- 1- and 2-channel control
- 8 enabling current paths, 1 signaling current path

# Safety relays - PSR-SCP- 24UC/ESAM4/8X1/1X2



2963912

<https://www.phoenixcontact.com/de/produkte/2963912>

## Commercial Data

Item number	2963912
Packing unit	1 pc
Minimum order quantity	1 pc
Note	Made to Order (non-returnable)
Sales Key	G1 - Relais
Product Key	DNA114
Catalog Page	Page 229 (C-6-2019)
GTIN	4017918899707
Weight per Piece (including packing)	423,99 g
Weight per Piece (excluding packing)	339,23 g
Customs tariff number	85371098
Country of origin	DE

## Technical Data

### Product properties

Product type	Safety relays
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

### Insulation characteristics

Overvoltage category	III
----------------------	-----

### Electrical properties

Maximum power dissipation for nominal condition	31.7 W ( $U_S = 26.4$ V, $I_L^2 = 144$ A <sup>2</sup> , $P_{Total\ max} = 2.9$ W + 28.8 W)
Nominal operating mode	100% operating factor
Rated insulation voltage	250 V
Rated surge voltage/insulation	Basic insulation 4 kV: between all current paths and housing Safe isolation, reinforced insulation 6 kV: between A1/A2 and 63/64, 73/74, 83/84 between S10/S11/S12/S33/S34/S35 and 63/64, 73/74, 83/84 between 63/64, 73/74, 83/84 among one another

### Input data

Rated control circuit supply voltage $U_S$	24 V DC -15 % / +10 %
Power consumption at $U_S$	typ. 2.4 W (DC)
Rated control supply current $I_S$	typ. 100 mA DC (at $U_S$ )
Inrush current	3.5 A ( $\Delta t = 2$ ms at $U_S$ )
	max. 150 mA ( $\Delta t = 1$ ms, with $U_S/I_x$ at S10)
	max. 200 mA ( $\Delta t = 1$ ms, with $U_S/I_x$ at S12)
	max. -180 mA ( $\Delta t = 1$ ms, with $U_S/I_x$ at S22)
	< 10 mA (with $U_S/I_x$ to S34)
	< 10 mA (with $U_S/I_x$ to S35)
Current consumption	50 mA (with $U_S/I_x$ to S10)
	50 mA (with $U_S/I_x$ to S12)
	-50 mA (with $U_S/I_x$ to S22)
	0 mA (with $U_S/I_x$ to S34)
	1 mA (with $U_S/I_x$ to S35)
Voltage at input/start and feedback circuit	24 V DC -15 % / +10 %
Filter time	2 ms (at A1 in the event of voltage dips at $U_S$ )
	max. 1.5 ms (at S10, S12; test pulse width)
	7.5 ms (at S10, S12; test pulse rate)
	Test pulse rate = 5 x Test pulse width
Typical response time	< 120 ms (automatic start)
	< 140 ms (manual start)

# Safety relays - PSR-SCP- 24UC/ESAM4/8X1/1X2



2963912

<https://www.phoenixcontact.com/de/produkte/2963912>

Typ. starting time with $U_s$	< 200 ms (when controlled via A1)
Typical release time	< 20 ms (when controlled via S11/S12 and S21/S22)
	< 50 ms (when controlled via A1)
Concurrence	$\infty$
Recovery time	< 500 ms (following demand of the safety function)
	< 1 s (Boot time)
Maximum switching frequency	0.5 Hz
Protective circuit	Surge protection; Suppressor diode
Max. permissible overall conductor resistance	11 $\Omega$ (Input sensor circuit S10,S12,S22)
	50 $\Omega$ (S34,S35 start circuit input)
Operating voltage display	1 x green LED
Status display	2 x green LEDs

## Output data

Contact type	8 enabling current paths
	1 signaling current path
Contact material	AgSnO <sub>2</sub>
Maximum switching voltage	250 V AC
Minimum switching voltage	5 V AC/DC
Limiting continuous current	6 A
Maximum inrush current	6 A
Inrush current, minimum	10 mA
Sq. Total current	144 A <sup>2</sup> (Enabling current paths)
	36 A <sup>2</sup> (Signaling current path)
Switching capacity min.	50 mW
Switching capacity according to IEC 60947-5-1	5 A (DC13)
	3 A (AC15)
	0.5 A (AC15)
Output fuse	10 A gL/gG (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 solid	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross-section AWG	24 ... 12
Screw thread	M3
Torque	0.5 Nm ... 0.6 Nm

## Dimensions

Width	45 mm
-------	-------

# Safety relays - PSR-SCP- 24UC/ESAM4/8X1/1X2



2963912

<https://www.phoenixcontact.com/de/produkte/2963912>

Height	99 mm
Depth	114.5 mm

## Material specifications

Housing material	Polyamide
Housing color	yellow

## Characteristics

### Safety data

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

### Safety data: EN ISO 13849

Category	4
Performance level (PL)	e (3 A DC13; 3 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 <sub>D</sub> )	$5.06 \times 10^{-10}$ (3 A DC13; 3 A AC15; 8760 switching cycles/year)
Proof test interval	240 Months
Duration of use	240 Months

### Safety data: IEC 61508 - Low demand

Designation	The data is only valid if the demand rate is no more than once a year.
Equipment type	Type A
Safety Integrity Level (SIL)	3
Probability of a hazardous failure on demand (PFD <sub>AVG</sub> )	$1.48 \times 10^{-4}$
Proof test interval	77 Months
Duration of use	240 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

## Approval data

CE

# Safety relays - PSR-SCP- 24UC/ESAM4/8X1/1X2



2963912

<https://www.phoenixcontact.com/de/produkte/2963912>

Certificate	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

# Safety relays - PSR-SCP- 24UC/ESAM4/8X1/1X2

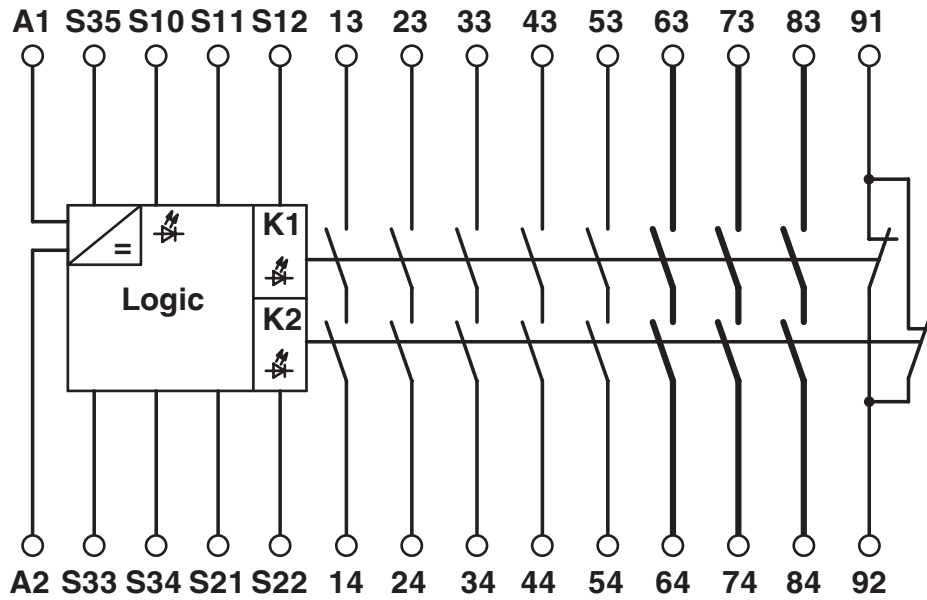


2963912

<https://www.phoenixcontact.com/de/produkte/2963912>

## Drawings

Circuit diagram



# Safety relays - PSR-SCP- 24UC/ESAM4/8X1/1X2



2963912

<https://www.phoenixcontact.com/de/produkte/2963912>

## Approvals



**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: 01/205/5363.03/22



**Functional Safety**

Approval ID: 968/EZ 622.03/22

**cULus Listed**



# Safety relays - PSR-SCP- 24UC/ESAM4/8X1/1X2



2963912

<https://www.phoenixcontact.com/de/produkte/2963912>

## Classifications

### ECLASS

ECLASS-9.0	27371819
ECLASS-10.0.1	27371819
ECLASS-11.0	27371819

### ETIM

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

### UNSPSC

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

# Safety relays - PSR-SCP- 24UC/ESAM4/8X1/1X2



2963912

<https://www.phoenixcontact.com/de/produkte/2963912>

## Environmental Product Compliance

China RoHS	Environmentally Friendly Use Period = 50 years For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads"
------------	--

2963912

<https://www.phoenixcontact.com/de/produkte/2963912>

## Accessories

### Coding profile

Coding profile - CP-MSTB - 1734634

<https://www.phoenixcontact.com/de/produkte/1734634>

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



---

### Coding section

Coding section - CR-MSTB - 1734401

<https://www.phoenixcontact.com/de/produkte/1734401>

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



---

Phoenix Contact 2022 © - all rights reserved

<https://www.phoenixcontact.com>

PHOENIX CONTACT Deutschland GmbH

Flachsmarktstraße 8

D-32825 Blomberg

+49 52 35/3-1 20 00

[info@phoenixcontact.de](mailto:info@phoenixcontact.de)