

# PSR-SPP- 24UC/THC4/2X1/1X2 - Safety relays



2963983

<https://www.phoenixcontact.com/us/products/2963983>

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Safety relay for two-hand control devices in accordance with ISO 13851 type IIIC to SIL 3 or Cat. 4, PL e in accordance with EN ISO 13849, synchronous activation monitoring < 0.5 s, 2 N/O contacts, 1 N/C contact, safe isolation, width: 22.5 mm, pluggable Push-in terminal block

## Your advantages

- For two-hand controls in accordance with ISO 13851 type IIIC
- Up to Cat. 4/PL e in accordance with ISO 13849-1, SIL 3 in accordance with EN IEC 62061, SIL 3 in accordance with IEC 61508
- 2 channel control
- Synchronous activation monitoring < 0.5 s
- Automatic activation
- Two enabling and one signaling current path

## Commercial data

Item number	2963983
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DN01
Product key	DNA141
Catalog page	Page 231 (C-6-2019)
GTIN	4017918904807
Weight per piece (including packing)	221.1 g
Weight per piece (excluding packing)	192.9 g
Customs tariff number	85371098
Country of origin	DE

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## Technical data

### Product properties

Product type	Safety relays
Product family	PSRclassic
Application	Two-hand control 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	1.44 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	6 kV / Safe isolation, increased insulation

### Input data

#### General

Nominal input voltage $U_N$	24 V AC/DC
Input voltage range	20.4 V AC/DC ... 26.4 V AC/DC
Input voltage range in reference to $U_N$	0.85 ... 1.1
Typical input current at $U_N$	125 mA AC 60 mA DC
Voltage at input/start and feedback circuit	approx. 24 V DC
Typical response time	50 ms
Typical release time	20 ms
Concurrence	< 0.5 s
Recovery time	1 s
Protective circuit	Fuse; PTC resistor Surge protection; Suppressor diode
Operating voltage display	Green LED
Status display	Green LED

### Output data

Contact switching type	2 enabling current paths 1 signaling current path
Contact material	AgSnO <sub>2</sub> , + 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) 5 A (N/C contact)

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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)
	110 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)
	42 W (48 V DC, $\tau = 40$ ms)
	42 W (110 V DC, $\tau = 40$ ms)
	42 W (220 V DC, $\tau = 40$ ms)
Switching capacity min.	0.4 W
Switching capacity (360/h cycles)	4 A (24 V DC)
	4 A (230 V AC)
Switching capacity (3600/h cycles)	2.5 A (24 V (DC13))
	3 A (230 V (AC15))
Output fuse	10 A gL/gG NEOZED (N/O contact)
	6 A gL/gG NEOZED (N/C contact)

## Relay

Output description	safety-related N/O contacts
Number of outputs	2

## Connection data

### Connection technology

pluggable	yes
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### Conductor connection

Connection method	Push-in connection
Conductor cross section rigid	0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section flexible	0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> (only together with CRIMPFOX 6)
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> (only together with CRIMPFOX 6)
Conductor cross-section AWG	24 ... 16
Stripping length	8 mm

## Dimensions

Width	22.5 mm
Height	112 mm
Depth	114.5 mm

## Material specifications

Color (Housing)	yellow (RAL 1018)
Housing material	Polyamide

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## Characteristics

### Safety data

Stop category	0
Type class	IIIC

### Safety data: EN ISO 13849

Category	4
Performance level (PL)	e

### Safety data: IEC 61508 - High demand

Safety Integrity Level (SIL)	3
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### Safety data: IEC 61508 - Low demand

Safety Integrity Level (SIL)	3
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### Safety data: EN IEC 62061

Safety Integrity Level (SIL)	3
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## 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
Ambient temperature (storage/transport)	-40 °C ... 70 °C
Maximum altitude	max. 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

### Conformity/Approvals

Conformance	CE-compliant
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## Standards and regulations

### Air clearances and creepage distances between the power circuits

Standards/regulations	IEC 60664-1
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## Mounting

Mounting type	DIN rail mounting
Mounting position	any

# PSR-SPP- 24UC/THC4/2X1/1X2 - Safety relays

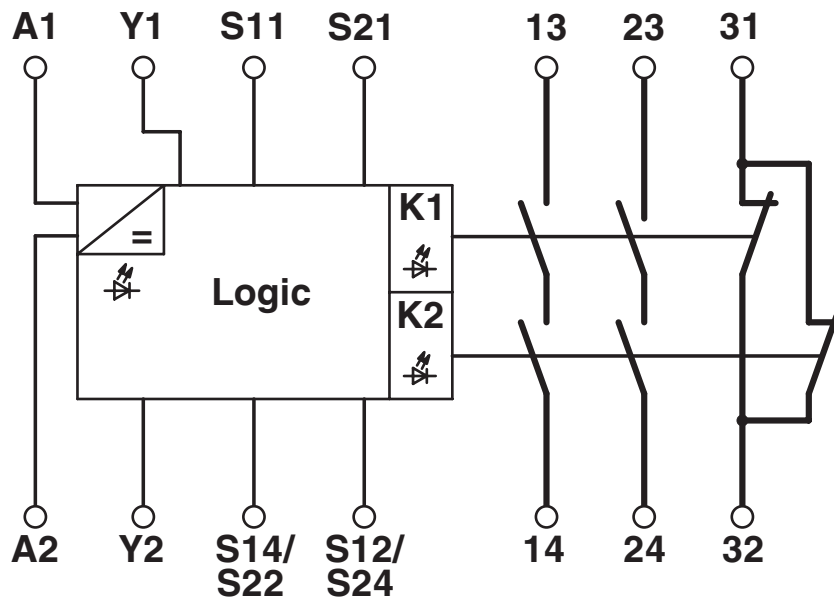


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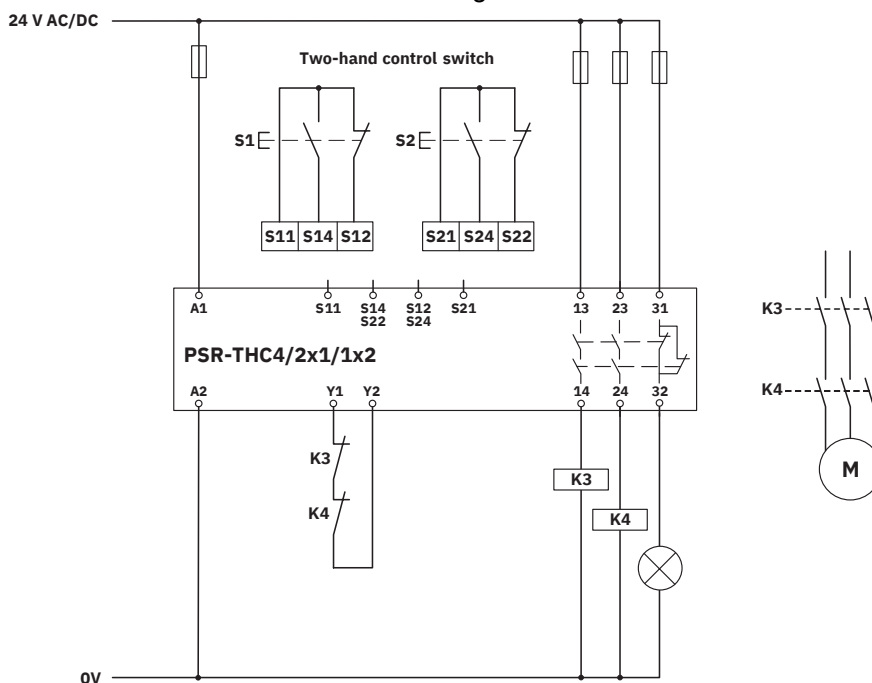
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## Drawings

Circuit diagram



Circuit diagram



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2963983>



**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: BB 60006385 0001



**Functional Safety**

Approval ID: 968/EZ 346.04/23

**cULus Listed**

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## Classifications

### ECLASS

ECLASS-11.0	27371821
ECLASS-13.0	27371821
ECLASS-12.0	27371821

### ETIM

ETIM 9.0	EC001452
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### UNSPSC

UNSPSC 21.0	39121100
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## Environmental product compliance

### EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	7(a), 7(c)-I

### China RoHS

Environment friendly use period (EFUP)	EFUP-50
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

### EU REACH SVHC

REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)
SCIP	69f3e9ff-5be2-4853-a750-aa3bc711fa0d



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## Accessories

### CRIMPFOX 6 - Crimping pliers

1212034

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Crimping pliers, for ferrules without insulating collar according to DIN 46228 Part 1 and ferrules with insulating collar according to DIN 46228 Part 4, 0.25 mm<sup>2</sup> ... 6.0 mm<sup>2</sup>, lateral entry, trapezoidal crimp

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