

# PSR-SPP- 24DC/SDC4/2X1/B - Safety relays



2981499

<https://www.phoenixcontact.com/sk/products/2981499>

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, safety door, and magnetic switches, as well as light grids, up to SIL 3 or Cat. 4, PL e in accordance with EN ISO 13849, 2 N/O contacts, TBUS interface, automatic or manual activation, pluggable Push-in terminal block

## Your advantages

- 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
- Modular system with TBUS extension
- For emergency stop and safety door monitoring, plus evaluation of light grids
- 2 enabling current paths, 1 signaling current path
- 1- and 2-channel control

## Commercial data

Item number	2981499
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DNA
Product key	DNA211
Catalog page	Page 231 (C-6-2019)
GTIN	4046356051699
Weight per piece (including packing)	228 g
Weight per piece (excluding packing)	197.9 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
	Light grid
	Solenoid switch
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	1.68 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 isolation, (safe isolation, reinforced insulation and 6 kV between input circuit and enabling current paths.)

### 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 $U_N$	70 mA
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	10 ms
Recovery time	1 s
Max. permissible overall conductor resistance	50 $\Omega$ (Input and start circuits at $U_S$ )

### Output data

Contact switching type	2 enabling current paths
	1 semiconductor signaling output
Contact material	AgSnO <sub>2</sub>
Maximum switching voltage	250 V AC/DC (Enabling current paths)
	24 V (signal output)
Minimum switching voltage	15 V AC/DC (Enabling current paths)
Limiting continuous current	6 A (Enabling current paths)
	100 mA (signal output)
Maximum inrush current	6 A

# PSR-SPP- 24DC/SDC4/2X1/B - Safety relays



2981499

<https://www.phoenixcontact.com/sk/products/2981499>

Inrush current, minimum	25 mA (Enabling current paths)
Sq. Total current	$72 \text{ A}^2 (I_{\text{TH}}^2 = I_1^2 + I_2^2)$
Interrupting rating (ohmic load) max.	144 W (24 V DC, $\tau = 0 \text{ ms}$ )
	288 W (48 V DC, $\tau = 0 \text{ ms}$ )
	77 W (110 V DC, $\tau = 0 \text{ ms}$ )
	88 W (220 V DC, $\tau = 0 \text{ ms}$ )
	1500 VA (250 V AC, $\tau = 0 \text{ ms}$ )
Maximum interrupting rating (inductive load)	48 W (24 V DC, $\tau = 40 \text{ ms}$ )
	40 W (48 V DC, $\tau = 40 \text{ ms}$ )
	35 W (110 V DC, $\tau = 40 \text{ ms}$ )
	33 W (220 V DC, $\tau = 40 \text{ ms}$ )
Switching capacity	min. 0.4 W (Enabling current paths)
Switching capacity (360/h cycles)	6 A (24 V DC)
	5 A (230 V (AC15))
Switching capacity (3600/h cycles)	3 A (24 V (DC13))
	3 A (230 V (AC15))
Output fuse	10 A gL/gG NEOZED (Enabling current paths)
	Miniature circuit breaker C6 (24 V / 20 A power supply unit)

## Connection data

### Connection technology

pluggable	yes
-----------	-----

### 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

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

## Characteristics

### Safety data

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

# PSR-SPP- 24DC/SDC4/2X1/B - Safety relays



2981499

<https://www.phoenixcontact.com/sk/products/2981499>

Safety data: EN ISO 13849

Category	4 (Undelayed contacts)
Performance level (PL)	e

Safety data: IEC 61508 - High demand

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

Safety data: IEC 61508 - Low demand

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 ... 55 °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)

## Standards and regulations

Air clearances and creepage distances between the power circuits

Standards/regulations	IEC 60664-1
-----------------------	-------------

## Mounting

Mounting type	DIN rail mounting
Mounting position	any
Connection method	Push-in connection

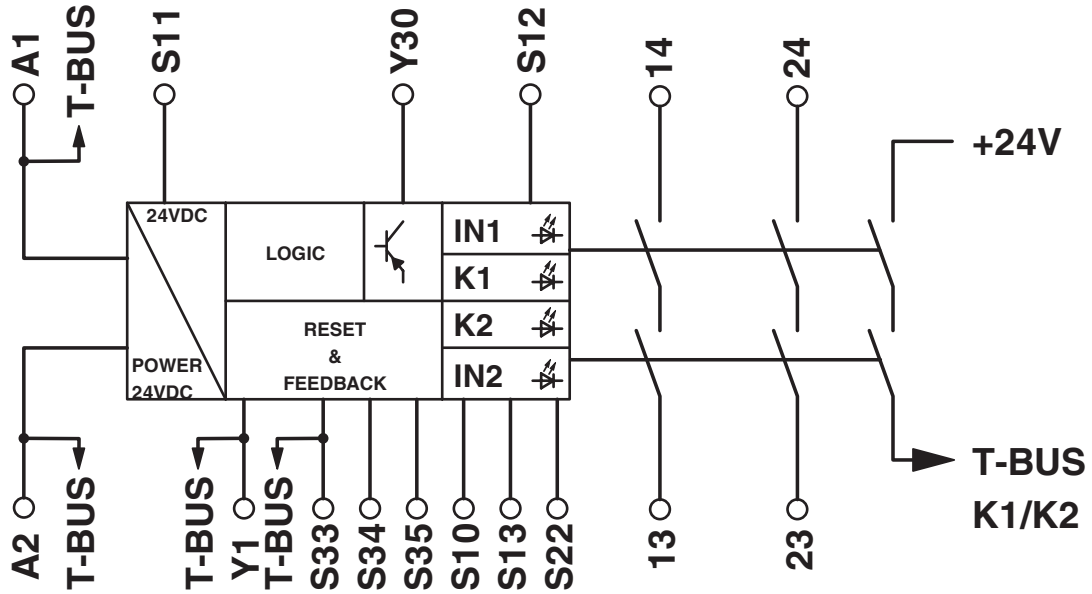
# PSR-SPP- 24DC/SDC4/2X1/B - Safety relays

2981499

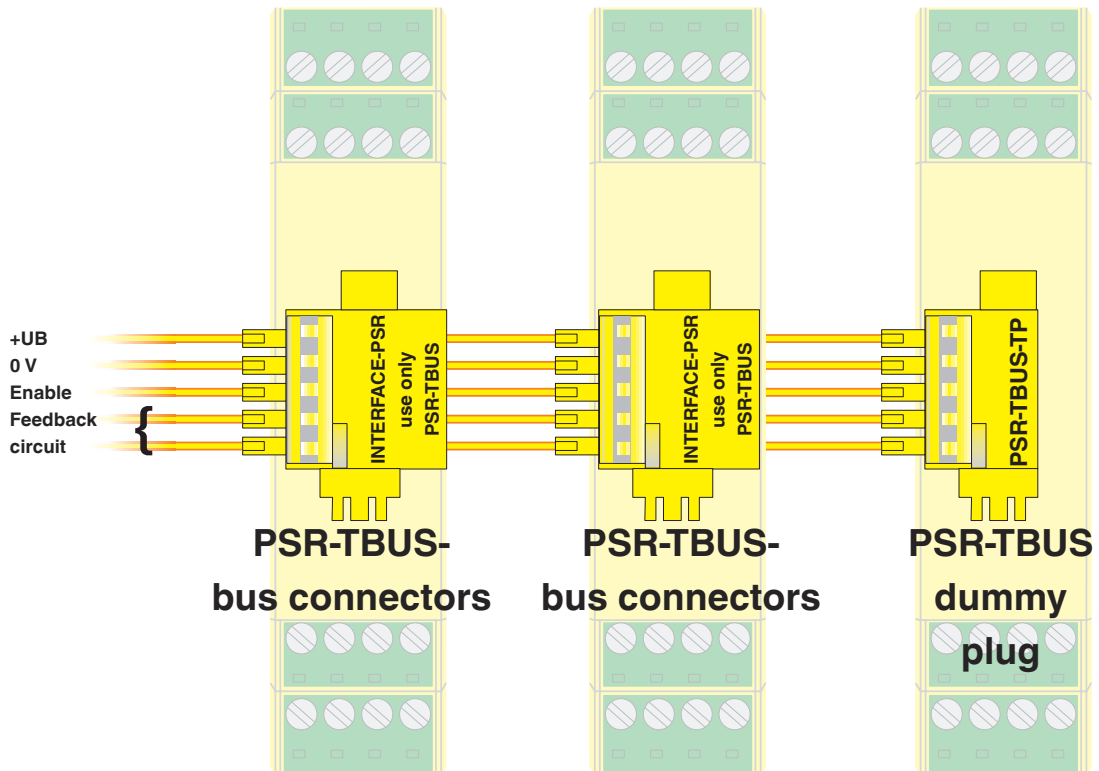
<https://www.phoenixcontact.com/sk/products/2981499>

## Drawings

Circuit diagram



Connection diagram



PSR-TBUS DIN rail connectors are used for cross-wiring between the modules.

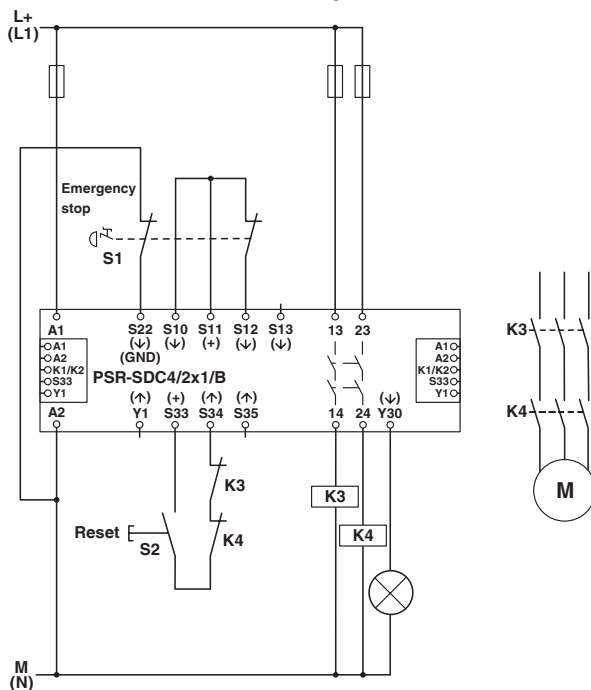
# PSR-SPP- 24DC/SDC4/2X1/B - Safety relays



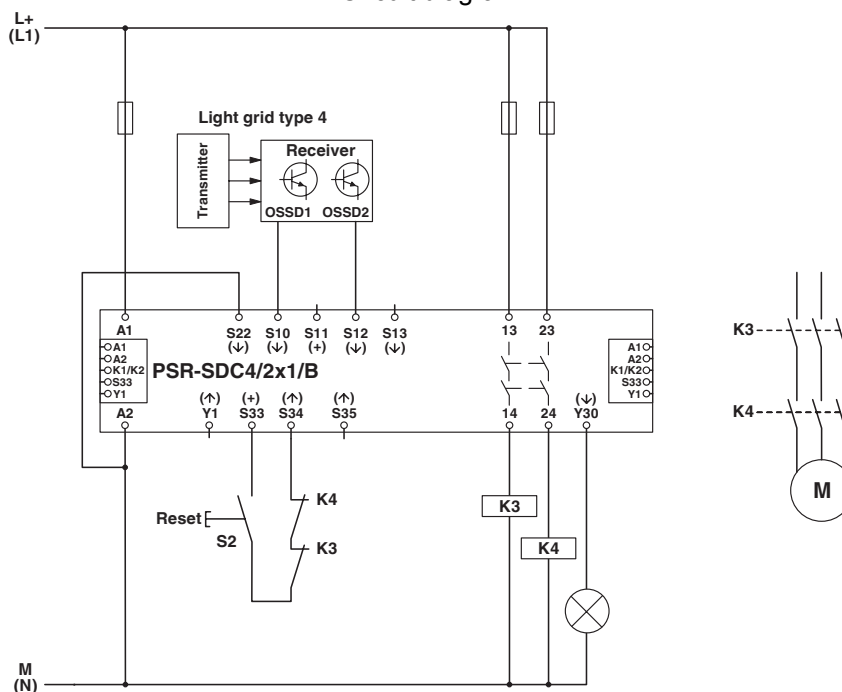
2981499

<https://www.phoenixcontact.com/sk/products/2981499>

Circuit diagram



Circuit diagram



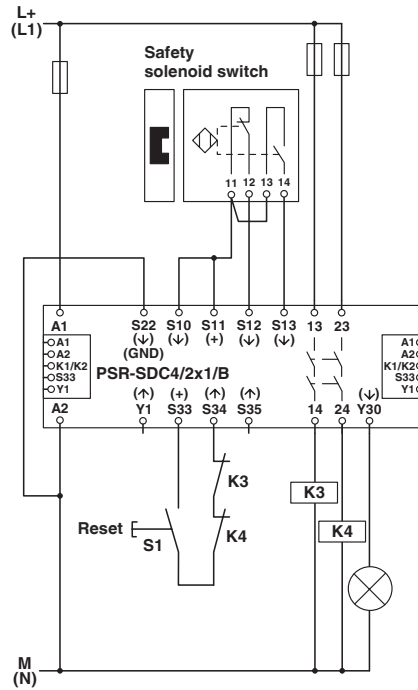
# PSR-SPP- 24DC/SDC4/2X1/B - Safety relays



2981499

<https://www.phoenixcontact.com/sk/products/2981499>

Circuit diagram



# PSR-SPP- 24DC/SDC4/2X1/B - Safety relays



2981499

<https://www.phoenixcontact.com/sk/products/2981499>

## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/sk/products/2981499>



**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: 01/205/0660.03/22



**Functional Safety**

Approval ID: 968/EZ 369.05/22

**cULus Listed**



# PSR-SPP- 24DC/SDC4/2X1/B - Safety relays



2981499

<https://www.phoenixcontact.com/sk/products/2981499>

## Classifications

### ECLASS

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

### ETIM

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

### UNSPSC

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

# PSR-SPP- 24DC/SDC4/2X1/B - Safety relays



2981499

<https://www.phoenixcontact.com/sk/products/2981499>

## 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-SPP- 24DC/SDC4/2X1/B - Safety relays



2981499

<https://www.phoenixcontact.com/sk/products/2981499>

## Accessories

### PSR-TBUS - DIN rail bus connectors

2890425

<https://www.phoenixcontact.com/sk/products/2890425>

DIN rail connector for safety switching devices, for supplying/controlling/monitoring (depending on the module)



---

### PSR-TBUS-TP - DIN rail bus connectors

2981716

<https://www.phoenixcontact.com/sk/products/2981716>

Blind plug for the PSR-TBUS DIN rail connector used with the modular safety relay system (PSR-SDC4)



# PSR-SPP- 24DC/SDC4/2X1/B - Safety relays

2981499

<https://www.phoenixcontact.com/sk/products/2981499>



## PSR-TBUS - 1PCS - DIN rail bus connectors

1326060

<https://www.phoenixcontact.com/sk/products/1326060>

DIN rail connector for safety switching devices, for supplying/controlling/monitoring (depending on the module)



---

Phoenix Contact 2023 © - all rights reserved

<https://www.phoenixcontact.com>

PHOENIX CONTACT s.r.o.

Námestie Mateja Korvína 1

811 07 Bratislava

+421 2 3210 1470

[obchod.sk@phoenixcontact.com](mailto:obchod.sk@phoenixcontact.com)