

# PSR-SPP-120UC/URM/5X1/2X2 - Coupling relay



2981415

<https://www.phoenixcontact.com/us/products/2981415>

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.



Safe coupling relay with force-guided contacts, 5 N/O contacts, 2 N/C contacts, 1-channel, width: 22.5 mm, pluggable Push-in terminal block

## Your advantages

- Suitable up to category 1, PL c (EN ISO 13849-1), SIL 1 (EN IEC 62061), SIL 1 (IEC 61508)
- Safe readback due to force-guided signal contact in accordance with EN 50205
- Easy proof test according to IEC 61508 thanks to integrated signal contact
- 1 or 2-channel control
- 5 enabling current paths, 2 confirmation current paths
- 120 V version

## Commercial data

Item number	2981415
Packing unit	1 pc
Minimum order quantity	1 pc
Note	Made to order (non-returnable)
Sales key	DN01
Product key	DNA162
Catalog page	Page 277 (C-6-2017)
GTIN	4046356051675
Weight per piece (including packing)	196.2 g
Weight per piece (excluding packing)	135.88 g
Customs tariff number	85364900
Country of origin	DE

## Technical data

### Product properties

Product type	Coupling relay
Product family	PSRclassic
Application	Safe switch off
	High demand
	Low demand
Mechanical service life	10x 10 <sup>6</sup> cycles
Relay type	Electromechanical relay with force-guided contacts in accordance with IEC/EN 61810-3

### Times

Restart time	< 1 s (Boot time)
--------------	-------------------

### Electrical properties

Maximum power dissipation for nominal condition	8.8 W (at $U_B = 132$ V DC, $U_S = 120$ V, $I_S = 11$ mA, $n = 1$ , $I_L^2 = 72$ A <sup>2</sup> , $R_{\text{contact}} = 0.1 \Omega$  )
Nominal operating mode	100% operating factor

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

Rated insulation voltage	250 V
	250 V
Rated surge voltage/insulation	4 kV basic insulation (4 kV safe isolation, reinforced insulation between A1/A2, 13/14, 23/24, 33/34 to 43/44, 53/54, 61/62, 71/72)

### Input data

#### General

Rated control circuit supply voltage $U_S$	120 V AC/DC -20 % ... +10 %
Power consumption at $U_S$	typ. 1.32 W
Rated control supply current $I_S$	typ. 11 mA
Input voltage range	19.2 V AC/DC ... 26.4 V AC/DC
Inrush current	typ. 600 mA ( $\Delta t = 200 \mu\text{s}$ at $U_S$ )
Typ. starting time with $U_S$	typ. 20 ms (when controlled via A1)
Typical release time	typ. 20 ms (when controlled via A1)
Recovery time	< 500 ms
Maximum switching frequency	0.5 Hz
Protective circuit	Surge protection; Varistor
Operating voltage display	1 x green LED

### Output data

Contact switching type	5 enabling current paths
	2 confirmation current paths
Contact material	AgSnO <sub>2</sub>

# PSR-SPP-120UC/URM/5X1/2X2 - Coupling relay



2981415

<https://www.phoenixcontact.com/us/products/2981415>

Maximum switching voltage	230 V AC/DC (Observe the load curve)
Minimum switching voltage	5 V AC/DC
Limiting continuous current	6 A (N/O contact)
	3 A (N/C contact)
Maximum inrush current	6 A
Inrush current, minimum	10 mA
Sq. Total current	72 A <sup>2</sup>
Interrupting rating (ohmic load) max.	144 W (N/O contact, 24 V DC, $\tau = 0$ ms)
	288 W (N/O contact, 48 V DC, $\tau = 0$ ms)
	240 W (N/O contact, 60 V DC, $\tau = 0$ ms)
	110 W (N/O contact, 110 V DC, $\tau = 0$ ms)
	88 W (N/O contact, 220 V DC, $\tau = 0$ ms)
	1380 VA (N/O contact, 230 V AC, $\tau = 0$ ms)
Maximum interrupting rating (inductive load)	42 W (N/O contact, 24 V DC, $\tau = 40$ ms)
	42 W (N/O contact, 48 V DC, $\tau = 40$ ms)
	42 W (N/O contact, 60 V DC, $\tau = 40$ ms)
	42 W (N/O contact, 110 V DC, $\tau = 40$ ms)
	42 W (N/O contact, 220 V DC, $\tau = 40$ ms)
Switching capacity	min. 50 mW
Switching capacity in accordance with IEC 60947-5-1	3 A (24 V (DC13))
	3 A (230 V (AC 15))
Switching capacity (360/h cycles)	4 A (24 V (DC13))
	4 A (230 V (AC15))
Output fuse	10 A gL/gG (N/O contact)
	4 A gL/gG (N/O contact, for low-demand applications)
	6 A gL/gG (N/C contact)

## 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 AWG	24 ... 16
Stripping length	8 mm
Tightening torque	0.6 Nm

## Dimensions

Width	22.5 mm
Height	114.5 mm
Depth	112 mm

# PSR-SPP-120UC/URM/5X1/2X2 - Coupling relay



2981415

<https://www.phoenixcontact.com/us/products/2981415>

## Material specifications

Color	yellow
Housing material	Polyamide

## Characteristics

### Safety data

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

### Safety data: EN ISO 13849

Category	1
Performance level (PL)	c

### Safety data: IEC 61508 - High demand

Safety Integrity Level (SIL)	1
------------------------------	---

### Safety data: IEC 61508 - Low demand

Safety Integrity Level (SIL)	1
------------------------------	---

### Safety data

Safety Integrity Level (SIL)	1
------------------------------	---

## 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 ... 85 °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 (In the event of stress caused by shock, contact reactions are possible for up to 2 ms.)
Vibration (operation)	10 Hz ... 150 Hz, 2g (In the event of stress caused by vibration, contact reactions are possible for up to 1 ms.)

## Approvals

### CE

Certificate	CE-compliant
-------------	--------------

## Standards and regulations

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

Standards/regulations	DIN EN 50178
-----------------------	--------------

## Mounting

# PSR-SPP-120UC/URM/5X1/2X2 - Coupling relay



2981415

<https://www.phoenixcontact.com/us/products/2981415>

Mounting type	DIN rail mounting
Mounting position	vertical or horizontal
Connection method	Push-in connection

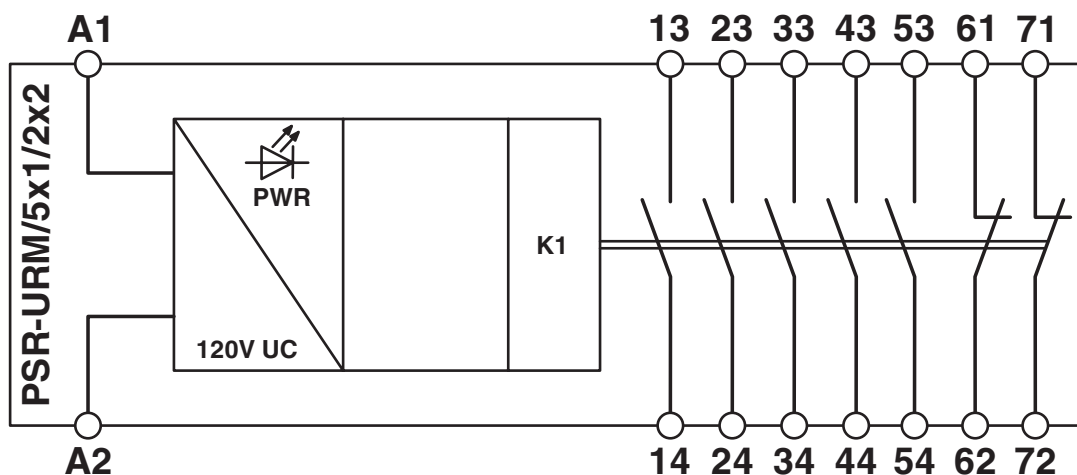
# PSR-SPP-120UC/URM/5X1/2X2 - Coupling relay

2981415

<https://www.phoenixcontact.com/us/products/2981415>

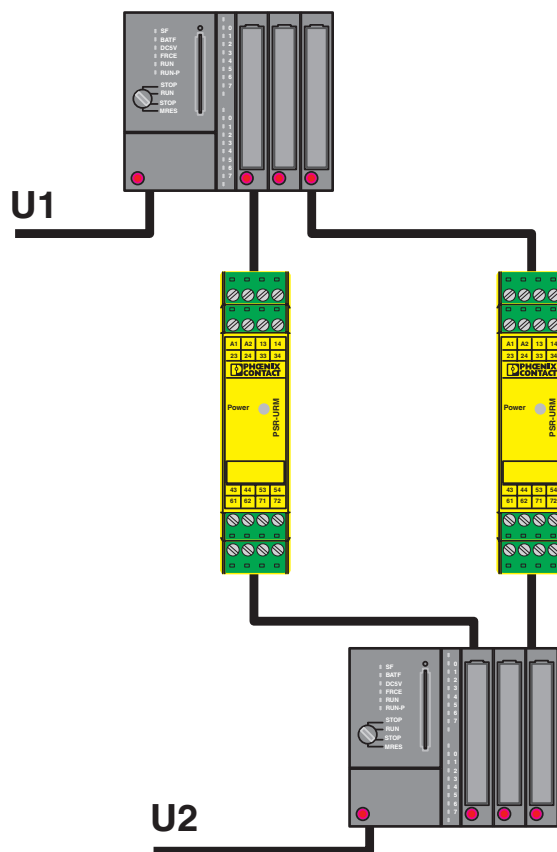
## Drawings

Block diagram



Block diagram

Application drawing



Reliable signal exchange between two systems with confirmation function.

# PSR-SPP-120UC/URM/5X1/2X2 - Coupling relay



2981415

<https://www.phoenixcontact.com/us/products/2981415>

## Classifications

### ECLASS

ECLASS-11.0	27371601
ECLASS-12.0	27371601
ECLASS-13.0	27371601

### ETIM

ETIM 7.0	EC001437
----------	----------

### UNSPSC

UNSPSC 21.0	39122334
-------------	----------

# PSR-SPP-120UC/URM/5X1/2X2 - Coupling relay



2981415  
<https://www.phoenixcontact.com/us/products/2981415>

## Environmental product compliance

China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

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](mailto:info@phoenixcon.com)