

# Coupling relay - PSR-SCF-120UC/URM/2X21



2981376

<https://www.phoenixcontact.com/us/products/2981376>

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Safe coupling relay with force-guided contacts, 2 changeover contacts, 1-channel, fixed screw terminal block, width: 17.5 mm

## Your advantages

- Suitable up to category 1, PL c (EN ISO 13849-1), SIL 1 (EN 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
- 2 changeover contacts (EN 50205 type B)
- 120 V version

## Commercial Data

Item number	2981376
Packing unit	1 pc
Minimum order quantity	10 pc
Sales Key	C18
Product Key	DNA162
Catalog Page	Page 247 (C-6-2019)
GTIN	4017918952907
Weight per Piece (including packing)	61.97 g
Weight per Piece (excluding packing)	61.97 g
Customs tariff number	85364900
Country of origin	DE

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## Technical Data

### Product properties

Product type	Coupling relay
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

### Insulation characteristics

Overvoltage category	III
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### Times

Restart time	< 1 s (Boot time)
Recovery time	< 500 ms

### Electrical properties

Maximum power dissipation for nominal condition	6.31 W (at $U_B = 132$ V DC, $U_S = 120$ V, $I_S = 9$ mA, $n = 1$ , $I_L^2 = 50$ A <sup>2</sup> , $R_{\text{contact}} = 0.1 \text{ } \square$ )
Nominal operating mode	100% operating factor
Rated insulation voltage	250 V
Rated insulation voltage	250 V
Rated surge voltage/insulation	4 kV/basic insulation (safe isolation, reinforced insulation, and 6 kV between logic and signaling current paths).

### Input data

#### General

Rated control circuit supply voltage $U_S$	120 V AC/DC -15 % / +10 %
Power consumption at $U_S$	typ. 1.08 W
Rated control supply current $I_S$	typ. 9 mA
Typ. starting time with $U_S$	typ. 10 ms
Typical release time	typ. 10 ms
Recovery time	< 500 ms
Maximum switching frequency	0.5 Hz
Operating voltage display	1 x yellow LED

### Output data

Contact type	2 changeover contacts
Contact material	AgNi
Maximum switching voltage	230 V AC/DC (Observe the load curve)
Minimum switching voltage	5 V AC/DC
Limiting continuous current	5 A (N/O contact)
	3.5 A (N/C contact)

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Maximum inrush current	6 A
Inrush current, minimum	10 mA
Sq. Total current	50 A <sup>2</sup>
Switching capacity	min. 50 mW
Switching capacity according to IEC 60947-5-1	3 A (24 V (DC13))
	3 A (250 V (AC15))
Output fuse	6 A gL/gG NEOZED (N/O contact)
	4 A gL/gG NEOZED (N/O contact, for low-demand applications)
	4 A gL/gG (N/C contact)

## Connection data

### Connection technology

pluggable	no
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### 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 flexible	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross-section AWG	24 ... 12
Stripping length	7 mm
Screw thread	M3
Tightening torque	0.6 Nm

## LED signaling

Operating voltage display	1 x yellow LED
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## Dimensions

Width	17.5 mm
Height	75 mm
Depth	60.5 mm

## Material specifications

Housing material	PBT
Housing color	green

## Characteristics

### Safety data

Stop category	0
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### Safety data: EN ISO 13849

Category	1
Performance level (PL)	c

### Safety data: IEC 61508 - High demand

Equipment type	Type A
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Safety Integrity Level (SIL)	1
Probability of a hazardous failure per hour (PFH <sub>D</sub> )	$6.67 \times 10^{-7}$ (3 A AC15; 8760 switching cycles/year; 10 % of the total SIL)
Duration of use	240 Months

Safety data: IEC 61508 - Low demand

Equipment type	Type A
Safety Integrity Level (SIL)	1
Probability of a hazardous failure on demand (PFD <sub>AVG</sub> )	$4.05 \times 10^{-3}$
Proof test interval	56 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 ... 50 °C
Ambient temperature (storage/transport)	-20 °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	N/O contact: 10g, N/C contact: 5g
Vibration (operation)	10 Hz ... 150 Hz, 2g

## Approval data

CE

Certificate	CE-compliant
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## Standards and regulations

Air clearances and creepage distances between the power circuits

Standards/regulations	DIN EN 60947-1
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## Mounting

Mounting type	DIN rail mounting
Mounting position	vertical or horizontal

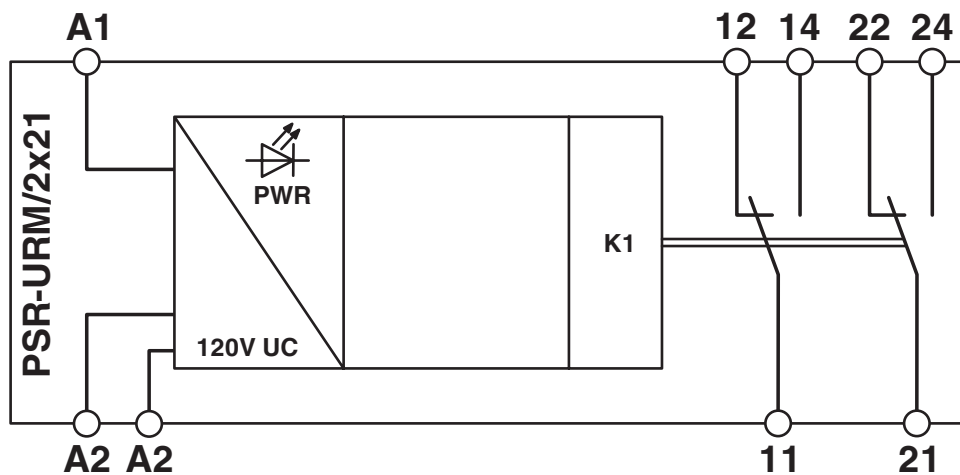
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## Drawings

Block diagram



Block diagram

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## Approvals



### EAC

Approval ID: TR TS\_D\_01838-19



### UL Listed

Approval ID: FILE E 140324



### cUL Listed

Approval ID: FILE E 140324



### Functional Safety

Approval ID: 44-780-15124312



### Functional Safety

Approval ID: 968/EL 649.01/15



### Functional Safety

Approval ID: 968/EL 649.01/15



### Functional Safety

Approval ID: 44-205-15124312

cULus Listed

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## Classifications

### ECLASS

ECLASS-9.0	27371601
ECLASS-10.0.1	27371601
ECLASS-11.0	27371601

### ETIM

ETIM 8.0	EC001437
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### UNSPSC

UNSPSC 21.0	39122300
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## 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"

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