

# PSR-SCF- 24UC/URM/2X21 - Coupling relay



2981363

<https://www.phoenixcontact.com/in/products/2981363>

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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)

## Commercial Data

Item number	2981363
Packing unit	10 pc
Minimum order quantity	10 pc
Sales Key	DNA
Product Key	DNA162
Catalog Page	Page 247 (C-6-2019)
GTIN	4017918946906
Weight per Piece (including packing)	61.49 g
Weight per Piece (excluding packing)	56.667 g
Customs tariff number	85364900
Country of origin	DE

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## 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)
Recovery time	< 500 ms

### Electrical properties

Maximum power dissipation for nominal condition	5.87 W (at $U_B = 26.4$ V DC, $U_S = 24$ V, $I_S = 30$ mA, $n = 1$ , $I_L^2 = 50$ A <sup>2</sup> , $R_{\text{contact}} = 0.1 \square$ )
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 (safe isolation, reinforced insulation, and 6 kV between logic and signaling current paths).

### Input data

#### General

Rated control circuit supply voltage $U_S$	24 V AC/DC -15 % / +10 %
Power consumption at $U_S$	typ. 0.72 W
Rated control supply current $I_S$	typ. 30 mA
Input voltage range	20.4 V AC/DC ... 26.4 V AC/DC
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)

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	3.5 A (N/C contact)
Maximum inrush current	6 A
Inrush current, minimum	10 mA
Sq. Total current	50 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)
	88 W (N/O contact, 110 V DC, $\tau = 0$ ms)
	110 W (N/O contact, 220 V DC, $\tau = 0$ ms)
	1500 VA (N/O contact, 230 V AC, $\tau = 0$ ms)
Switching capacity	min. 50 mW
Switching capacity in accordance with IEC 60947-5-1	3 A (24 V (DC13))
	3 A (230 V (AC15))
Output fuse	6 A gL/gG (N/O contact)
	4 A gL/gG (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 rigid	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

## 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
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## Characteristics

### Safety data

Stop category	0
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Safety data: EN ISO 13849

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Category	1
Performance level (PL)	c

## Safety data: IEC 61508 - High demand

Equipment type	Type A
Safety Integrity Level (SIL)	1
Probability of a hazardous failure per hour (PFH <sub>D</sub> )	6.67 x 10 <sup>-7</sup> (3 A AC15; 8760 switching cycles/year; 10 % of the total SIL)
Proof test interval	240 Months
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 x 10 <sup>-3</sup>
Proof test interval	56 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 ... 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

## Approvals

### 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
Connection method	Screw connection

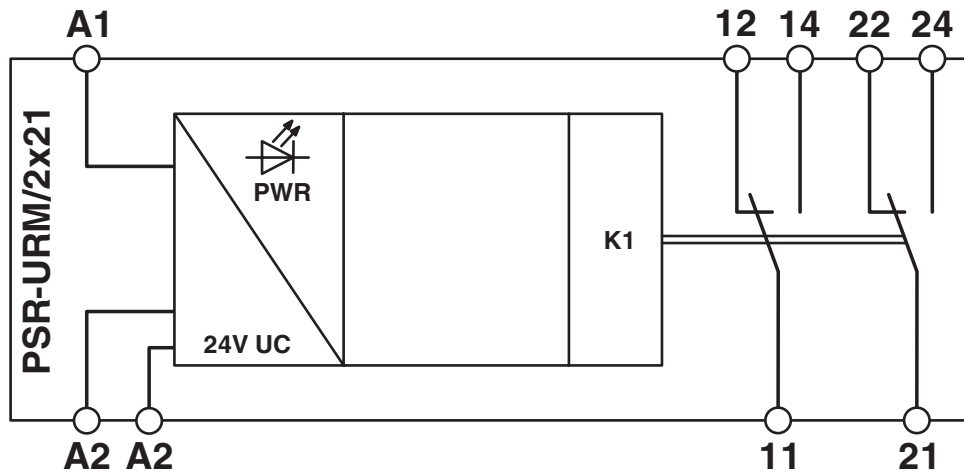
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## Drawings

Block diagram



Block diagram

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## 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: 44-780-15124312



**Functional Safety**

Approval ID: 44-205-15124312

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## Classifications

### ECLASS

ECLASS-11.0	27371601
ECLASS-12.0	27371601
ECLASS-13.0	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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