

# PSR-SPF-24UC/URM/4X1/2X2 - Coupling relay

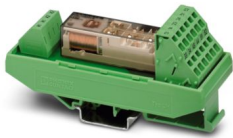


2981457

<https://www.phoenixcontact.com/pc/products/2981457>

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Safe coupling relay with force-guided contacts, 4 N/O contacts, 2 N/C contacts, fixed spring-cage terminal block, width: 40 mm



## 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
- 4 enabling current paths, 2 confirmation current paths

## Commercial data

Item number	2981457
Packing unit	1 pc
Minimum order quantity	1 pc
Product key	DNA162
Catalog page	Page 247 (C-6-2019)
GTIN	4017918987794
Weight per piece (including packing)	123.1 g
Weight per piece (excluding packing)	89 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)
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### Electrical properties

Maximum power dissipation for nominal condition	8.71 W (at $U_B = 26.4$ V DC, $U_S = 24$ V, $I_S = 52$ 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	Safe isolation, reinforced insulation 6 kV between input circuit (A1/A2) and all output current paths
	Basic insulation 4 kV between all output current paths

### Input data

#### General

Rated control circuit supply voltage $U_S$	24 V AC/DC -20 % / +10 %
Power consumption at $U_S$	typ. 1.25 W
Rated control supply current $I_S$	typ. 52 mA
Input voltage range	19.2 V AC/DC ... 26.4 V AC/DC
Typ. starting time with $U_S$	typ. 10 ms (when controlled via A1)
Typical release time	typ. 10 ms (when controlled via A1)
Recovery time	< 500 ms
Maximum switching frequency	0.5 Hz
Operating voltage display	1 x green LED

### Output data

Contact switching type	4 enabling current paths
	2 confirmation current paths
Contact material	AgSnO <sub>2</sub>
Maximum switching voltage	230 V AC/DC (Observe the load curve)
Minimum switching voltage	5 V AC/DC

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Limiting continuous current	6 A (N/O contact)
	6 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)
	77 W (N/O contact, 110 V DC, $\tau = 0$ ms)
	88 W (N/O contact, 220 V DC, $\tau = 0$ ms)
Maximum interrupting rating (inductive load)	48 W (N/O contact, 24 V DC, $\tau = 40$ ms)
	40 W (N/O contact, 48 V DC, $\tau = 40$ ms)
	36 W (N/O contact, 60 V DC, $\tau = 40$ ms)
	35 W (N/O contact, 110 V DC, $\tau = 40$ ms)
	33 W (N/O contact, 220 V DC, $\tau = 40$ ms)
Switching capacity	min. 50 mW
Switching capacity in accordance with IEC 60947-5-1	5 A (24 V (DC13))
	5 A (230 V (AC 15))
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	no
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### Conductor connection

Connection method	Spring-cage 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
Tightening torque	0.6 Nm

## Dimensions

Width	40 mm
Height	114.5 mm
Depth	50.1 mm

## Material specifications

Color (Housing)	green (RAL 6021)
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## Characteristics

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## 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

Safety Integrity Level (SIL)	1
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## Safety data: IEC 61508 - Low demand

Safety Integrity Level (SIL)	1
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## Safety data

Safety Integrity Level (SIL)	1
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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 ... 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 2 ms.)

## 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 50178
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## Mounting

Mounting type	DIN rail mounting
Mounting position	vertical or horizontal
Connection method	Spring-cage connection

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