

# PSR-SPP- 24UC/URM/5X1/2X2 - Coupling relay



2963970

<https://www.phoenixcontact.com/us/products/2963970>

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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

## Commercial data

Item number	2963970
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DN01
Product key	DNA162
GTIN	4017918904791
Weight per piece (including packing)	181 g
Weight per piece (excluding packing)	148 g
Customs tariff number	85364900
Country of origin	DE

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## Technical data

### Notes

#### Note on application

Note on application	Only for industrial use
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### Product properties

Product type	Coupling relay
Product family	PSRclassic
Application	Safe switch off High demand Low demand
Control	1 and 2 channel
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	II
Degree of pollution	2

### Times

Restart time	< 1 s (Boot time)
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### Electrical properties

Maximum power dissipation for nominal condition	8.56 W (at $U_B = 26.4$ V DC, $U_S = 24$ V, $I_S = 47$ mA, $n = 1$ , $I_L^2 = 72$ A <sup>2</sup> , $R_{\text{contact}} = 0.1 \Omega$  )
Nominal operating mode	100% operating factor
Rated insulation voltage	250 V
Rated surge voltage/insulation	Safe isolation 4 kV between all current paths and housing

### Input data

#### General

Rated control circuit supply voltage $U_S$	24 V AC/DC -15 % / +10 %
Power consumption at $U_S$	typ. 1.2 W
Rated control supply current $I_S$	typ. 47 mA
Input voltage range	20.4 V AC/DC ... 26.4 V AC/DC
Inrush current	typ. 350 mA DC ( $\Delta t < 1 \mu\text{s}$ at $U_S$ ) typ. 350 mA AC ( $\Delta t = 2$ ms 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

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Operating voltage display	1 x LED (green)
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## Output data

Contact switching type	5 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
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, τ = 0 ms)
	288 W (N/O contact, 48 V DC, τ = 0 ms)
	240 W (N/O contact, 60 V DC, τ = 0 ms)
	110 W (N/O contact, 110 V DC, τ = 0 ms)
	88 W (N/O contact, 220 V DC, τ = 0 ms)
	1380 VA (N/O contact, 230 V AC, τ = 0 ms)
Maximum interrupting rating (inductive load)	42 W (N/O contact, 24 V DC, τ = 40 ms)
	42 W (N/O contact, 48 V DC, τ = 40 ms)
	42 W (N/O contact, 60 V DC, τ = 40 ms)
	42 W (N/O contact, 110 V DC, τ = 40 ms)
	42 W (N/O contact, 220 V DC, τ = 40 ms)
Switching capacity	min. 50 mW
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
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### 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

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Tightening torque	0.6 Nm
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## Dimensions

Width	22.5 mm
Height	114.5 mm
Depth	112 mm

## Material specifications

Color (Housing)	yellow (RAL 1018)
Housing material	PA

## 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

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	max. 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
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## Mounting

Mounting type	DIN rail mounting
Mounting position	any

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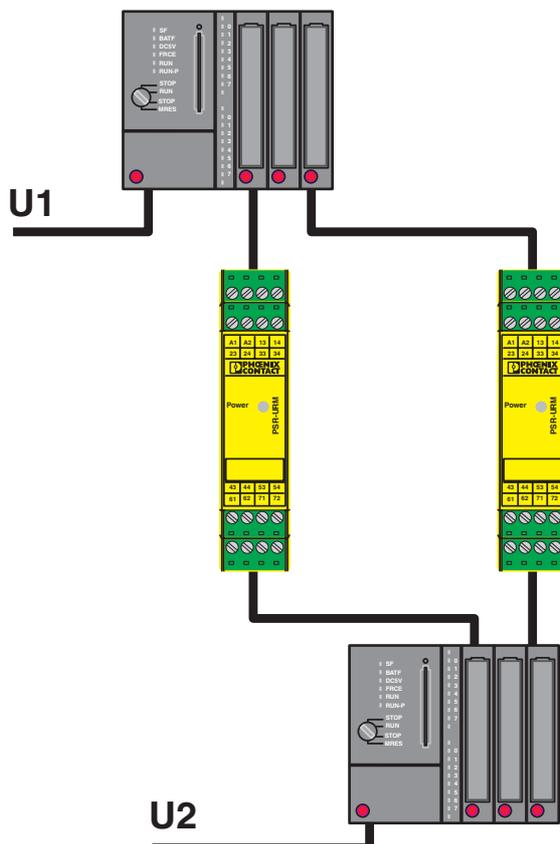


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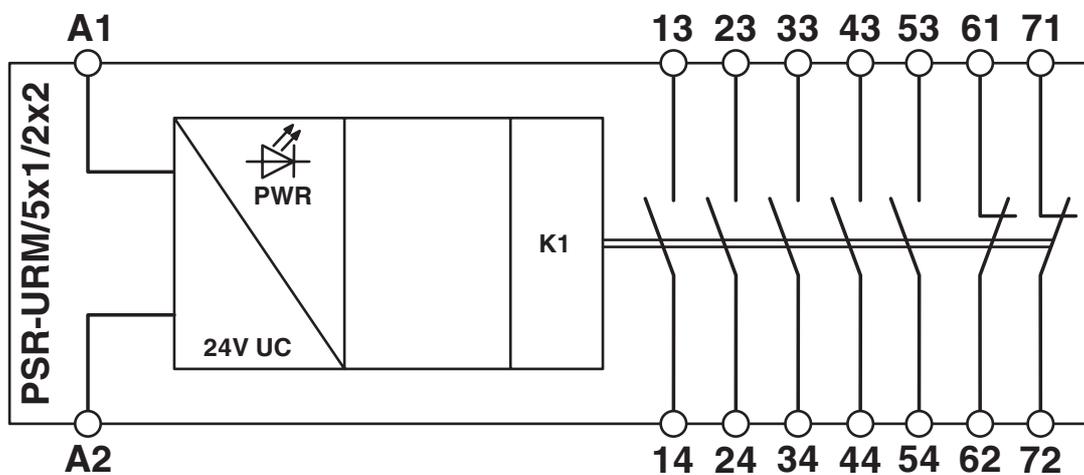
## Drawings

Application drawing



Reliable signal exchange between two systems with confirmation function.

Block diagram



Block diagram

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## Approvals

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### Functional Safety

Approval ID: 3535 2399



### Functional Safety

Approval ID: 4478015124312



### cULus Listed

Approval ID: E140324

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## Classifications

### ECLASS

ECLASS-13.0	27371819
ECLASS-15.0	27371819

### ETIM

ETIM 9.0	EC001449
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### UNSPSC

UNSPSC 21.0	39122200
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## Environmental product compliance

### EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	7(a), 7(c)-I

### China RoHS

Environment friendly use period (EFUP)	EFUP-E
	No hazardous substances above the limits

### EU REACH SVHC

REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)
SCIP	e7f53381-e4de-4980-9f18-f5892eb18940

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