

# PSR-SCP- 24UC/URM/3X1/3X2 - Coupling relay



2981839

<https://www.phoenixcontact.com/us/products/2981839>

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Safe coupling relay with force-guided contacts, 3 N/O contacts, 3 N/C contacts, plug-in screw terminal block, width: 22.5 mm

## Your advantages

- Up to Cat. 1/PL c in accordance with EN ISO 13849-1, SIL 1 in accordance with 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
- 3 enabling current paths, 3 confirmation current paths

## Commercial Data

Item number	2981839
Packing unit	1 pc
Minimum order quantity	1 pc
Sales Key	DN01
Product Key	DNA162
Catalog Page	Page 246 (C-6-2019)
GTIN	4046356138604
Weight per Piece (including packing)	153.7 g
Weight per Piece (excluding packing)	126.9 g
Customs tariff number	85364900
Country of origin	DE

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## Technical Data

### Notes

#### Utilization restriction

EMC note	EMC: class A product, see manufacturer's declaration in the download area
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### 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	6.11 W (at $U_B = 26.4$ V DC, $U_S = 24$ V, $I_S = 45$ mA, $n = 1$ , $I_L^2 = 48$ 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 isolation, (safe isolation, reinforced insulation and 6 kV between input circuit and enabling current paths.)

#### Supply

Rated control circuit supply voltage $U_S$	20.4 V AC/DC ... 26.4 V AC/DC
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### Input data

#### General

Rated control circuit supply voltage $U_S$	24 V AC/DC -15 % / +10 %
Power consumption at $U_S$	typ. 1.08 W
Rated control supply current $I_S$	typ. 45 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. 15 ms (when controlled via A1)
Typical release time	typ. 15 ms (when controlled via A1)
Recovery time	< 500 ms

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Maximum switching frequency	0.5 Hz
Protective circuit	Surge protection; Suppressor diode
Operating voltage display	1 x green LED

## Output data

Contact switching type	3 enabling current paths
	3 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)
	6 A (N/C contact)
Maximum inrush current	8 A
Inrush current, minimum	10 mA
Sq. Total current	48 A <sup>2</sup>
Interrupting rating (ohmic load) max.	For additional values, see load curve
Maximum interrupting rating (inductive load)	48 W (N/O contact, 24 V DC, τ = 40 ms)
	40 W (N/O contact, 48 V DC, τ = 40 ms)
	36 W (N/O contact, 60 V DC, τ = 40 ms)
	35 W (N/O contact, 110 V DC, τ = 40 ms)
	33 W (N/O contact, 220 V DC, τ = 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	yes
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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

## Dimensions

Width	22.5 mm
Height	114.5 mm

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Depth	99 mm
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## Material specifications

Housing material	Polyamide
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## 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
Safety Integrity Level (SIL)	1
Probability of a hazardous failure per hour (PFH <sub>D</sub> )	4,00 x 10 <sup>-7</sup> (3 A AC15; 8760 switching cycles/year; 5 % 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 ... 55 °C
Ambient temperature (storage/transport)	-40 °C ... 70 °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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## 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	Screw connection

# PSR-SCP- 24UC/URM/3X1/3X2 - Coupling relay

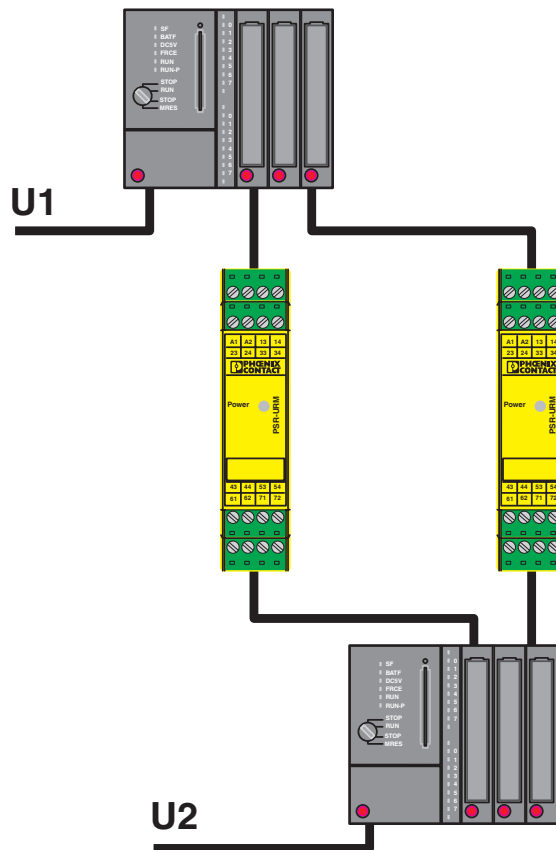


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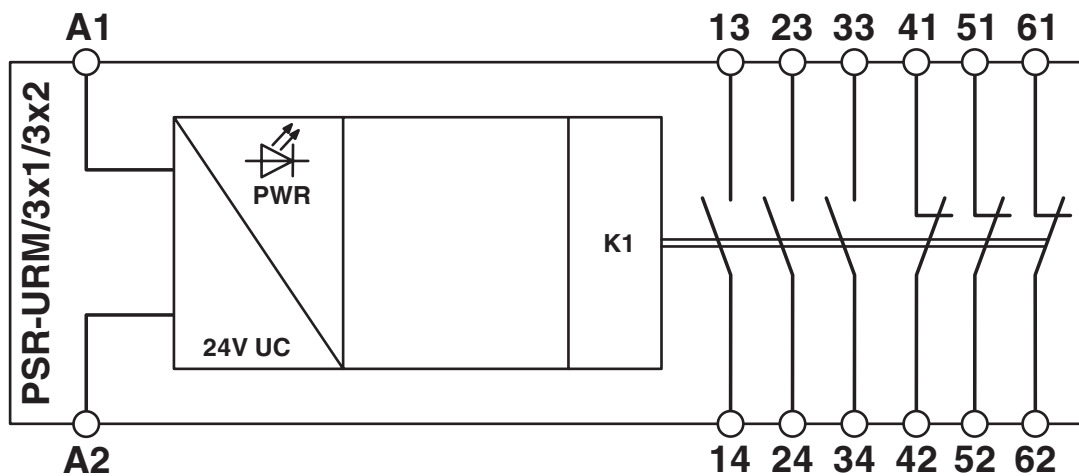
## Drawings

Application drawing



Reliable signal exchange between two systems with confirmation function.

Block diagram



Block diagram

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2981839>



**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

**cULus Listed**

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## Classifications

### ECLASS

ECLASS-11.0	27371819
ECLASS-13.0	27371819
ECLASS-12.0	27371819

### ETIM

ETIM 8.0	EC001449
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### UNSPSC

UNSPSC 21.0	39122200
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## Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
	Hexahydromethylphthalic anhydride
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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