

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



2981444

<https://www.phoenixcontact.com/sk/products/2981444>

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Safe coupling relay with force-guided contacts, 4 N/O contacts, 2 N/C contacts, fixed screw 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                          | 2981444             |
| Packing unit                         | 1 pc                |
| Minimum order quantity               | 1 pc                |
| Sales key                            | DNA                 |
| Product key                          | DNA162              |
| Catalog page                         | Page 247 (C-6-2019) |
| GTIN                                 | 4017918987787       |
| Weight per piece (including packing) | 135.3 g             |
| Weight per piece (excluding packing) | 103 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) |
|--------------|-------------------|

### 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 |
|-----------|----|

### 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  | 40 mm  |
| Height | 111 mm |
| Depth  | 55 mm  |

## Material specifications

|                  |     |
|------------------|-----|
| Housing material | PBT |
|------------------|-----|

## Characteristics

### Safety data

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|                                      |   |
|--------------------------------------|---|
| Stop category                        | 0 |
| Safety data: EN ISO 13849            |   |
| Category                             | 1 |
| Performance level (PL)               | c |
| Safety data: IEC 61508 - High demand |   |
| Safety Integrity Level (SIL)         | 1 |
| Safety data: IEC 61508 - Low demand  |   |
| Safety Integrity Level (SIL)         | 1 |
| Safety data                          |   |
| Safety Integrity Level (SIL)         | 1 |

## 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 |
|-------------|--------------|

## Standards and regulations

### Air clearances and creepage distances between the power circuits

|                       |              |
|-----------------------|--------------|
| Standards/regulations | DIN EN 50178 |
|-----------------------|--------------|

## Mounting

|                   |                        |
|-------------------|------------------------|
| Mounting type     | DIN rail mounting      |
| Mounting position | vertical or horizontal |
| Connection method | Screw connection       |

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

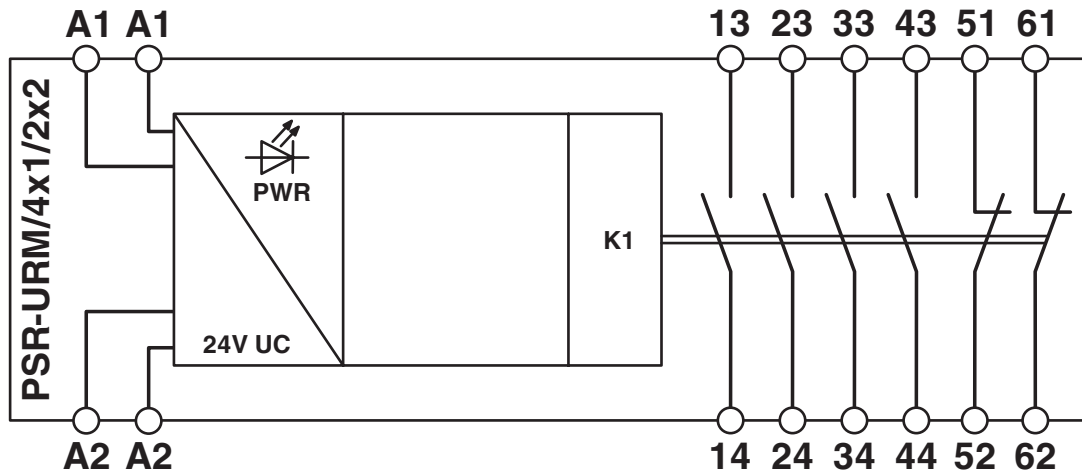


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## Drawings

Block diagram



Block diagram

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/sk/products/2981444>



**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 | 27371601 |
| ECLASS-12.0 | 27371601 |
| ECLASS-13.0 | 27371601 |

### ETIM

|          |          |
|----------|----------|
| ETIM 8.0 | EC001437 |
|----------|----------|

### 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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