

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

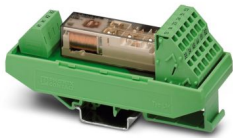


2981457

<https://www.phoenixcontact.com/us/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 |
| Sales key | DN01 |
| Product key | DNA162 |
| GTIN | 4017918987794 |
| Weight per piece (including packing) | 115.4 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 |
| Control | 1 and 2 channel |
| Mechanical service life | 10x 10 ⁶ cycles |
| Relay type | Electromechanical relay with force-guided contacts in accordance with IEC/EN 61810-3 |

Insulation characteristics

| | |
|----------------------|-----|
| Overvoltage category | III |
| Degree of pollution | 2 |

Times

| | |
|--|---|
| Typ. starting time with U _s | typ. 10 ms (with U _s when controlled via A1) |
| Typical release time | typ. 10 ms (with U _s when controlled via A1) |
| Restart time | < 1 s (Boot time) |
| Recovery time | < 500 ms |

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 ² , R _{contact} = 0.1 Ω _{max}) |
| Nominal operating mode | 100% operating factor |
| Rated insulation voltage | 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 |

Supply

| | |
|---|-----------------------------------|
| Designation | A1/A2 |
| Rated control circuit supply voltage U _S | 24 V AC/DC -20 % ... +10 % |
| Rated control supply current I _S | typ. 52 mA |
| Power consumption at U _S | typ. 1.25 W |
| Filter time | 1 ms (at A1-A2; test pulse width) |
| | 1 s (at A1-A2; test pulse rate) |

Output data

Relay: Enabling current paths (13/14, 23/24, 33/34, 43/44)

| | |
|------------------------|--------------------------|
| Number of outputs | 4 |
| Contact switching type | 4 enabling current paths |
| Contact material | AgSnO ₂ |

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| | |
|--|---|
| Switching voltage | min. 5 V AC/DC |
| | max. 250 V AC/DC |
| Switching power | min. 50 mW |
| Inrush current | min. 10 mA |
| | max. 6 A |
| Switching capacity | 5 A (AC15, 250 V) |
| | 5 A (DC13, 24 V) |
| Limiting continuous current | 6 A |
| Sq. Total current | 72 A ² |
| Switching frequency | max. 0.5 Hz |
| Mechanical service life | 10x 10 ⁶ cycles |
| Interrupting rating (ohmic load) max. | see load limit 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) |
| Output fuse | 10 A gL/gG NEOZED |
| | 4 A gL/gG NEOZED (Low demand) |

Relay: Confirmation current paths (51/52, 61/62)

| | |
|-----------------------------|------------------------------|
| Number of outputs | 2 |
| Contact switching type | 2 confirmation current paths |
| Contact material | AgSnO ₂ |
| Switching voltage | min. 5 V AC/DC |
| | max. 250 V AC/DC |
| Switching power | min. 50 mW |
| Inrush current | min. 10 mA |
| | max. 6 A |
| Switching capacity | 5 A (DC13, 24 V) |
| | 5 A (AC15, 250 V) |
| Limiting continuous current | 6 A |
| Sq. Total current | 72 A ² |
| Mechanical service life | 10x 10 ⁶ cycles |
| Output fuse | 6 A gL/gG NEOZED |

Connection data

Connection technology

| | |
|-----------|----|
| pluggable | no |
|-----------|----|

Conductor connection

| | |
|----------------------------------|---|
| Connection method | Spring-cage connection |
| Conductor cross-section rigid | 0.2 mm ² ... 1.5 mm ² |
| Conductor cross-section flexible | 0.2 mm ² ... 1.5 mm ² |

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| | |
|---|--|
| Conductor cross-section, flexible, with ferrule, with plastic sleeve | 0.25 mm ² ... 1.5 mm ² (only together with CRIMPFOX 6) |
| Conductor cross-section, flexible, with ferrule, without plastic sleeve | 0.25 mm ² ... 1.5 mm ² (only together with CRIMPFOX 6) |
| Conductor cross-section AWG | 24 ... 16 |
| Stripping length | 8 mm |

Signaling

| | |
|---------------------------|-----------------|
| Operating voltage display | 1 x LED (green) |
|---------------------------|-----------------|

Dimensions

| | |
|--------|----------|
| Width | 40 mm |
| Height | 114.5 mm |
| Depth | 50.1 mm |

Material specifications

| | |
|-----------------|------------------|
| Color (Housing) | green (RAL 6021) |
|-----------------|------------------|

Characteristics

Safety data

| | |
|----------------------------|---|
| Stop category (EN 60204-1) | 0 |
|----------------------------|---|

Safety data: EN ISO 13849

| | |
|------------------------|---|
| 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.) |

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Approvals

CE

| | |
|-------------|--------------|
| Certificate | CE-compliant |
|-------------|--------------|

Mounting

| | |
|-------------------|------------------------|
| Mounting type | DIN rail mounting |
| Mounting position | vertical or horizontal |

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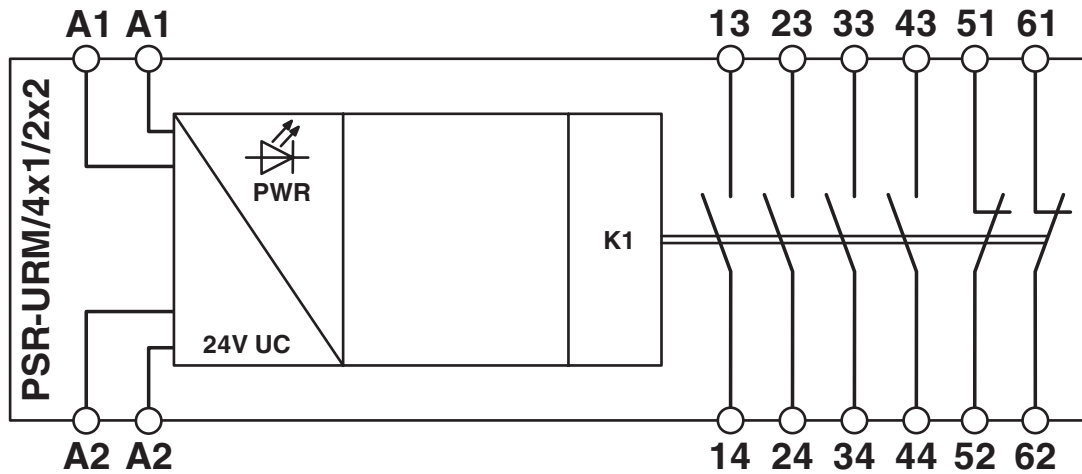


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Drawings

Block diagram




Block diagram

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Approvals

 To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2981457>



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 | 27371601 |
| ECLASS-15.0 | 27371601 |

ETIM

| | |
|-----------|----------|
| ETIM 10.0 | EC001437 |
|-----------|----------|

UNSPSC

| | |
|-------------|----------|
| UNSPSC 21.0 | 39122300 |
|-------------|----------|

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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-50 |
| | An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required. |

EU REACH SVHC

| | |
|-------------------------------------|--------------------------------------|
| REACH candidate substance (CAS No.) | Lead(CAS: 7439-92-1) |
| SCIP | 1d9d8d0d-5a0a-4bbe-8a72-79c31e007769 |

EF3.1 Climate Change

| | |
|---------|---------------|
| CO2e kg | 1.933 kg CO2e |
|---------|---------------|

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