

Coupling relay - PSR-PS21-1NO-1NC-24DC-SC - 2700357

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Coupling relay for SIL 2 high- and low-demand applications, couples digital output signals to the I/O, 1 enabling current path, 1 confirmation current path, 1 digital signal output, safe state off applications, test pulse filter, fixed screw terminal block

Why buy this product

- ✓ Up to SIL 2 according to IEC 61508
- ✓ Forcibly guided contacts according to EN 50205
- ✓ Easy proof test according to IEC 61508 thanks to integrated signal contact
- ✓ Approved for Class I, Zone 2 applications
- ✓ Low housing width of just 6.8 mm
- ✓ Long service life thanks to filtering of controller test pulses
- ✓ 1 enabling current path, 1 digital signal output, 1 diagnostic current path
- ✓ Couples digital output signals from failsafe controllers to I/O devices (valves, etc.) for electrical isolation and power adaptation



Key Commercial Data

| | |
|--------------------------------------|---|
| Packing unit | 1 pc |
| GTIN |  4 046356 912907 |
| Weight per Piece (excluding packing) | 118.6 g |
| Custom tariff number | 85364900 |
| Country of origin | Germany |
| Note | Made to Order (non-returnable) |

Technical data

Dimensions

| | |
|--------|----------|
| Width | 6.8 mm |
| Height | 93.1 mm |
| Depth | 102.5 mm |

Ambient conditions

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Technical data

Ambient conditions

| | |
|--|---|
| Ambient temperature (operation) | -40 °C ... 65 °C (observe derating) |
| Ambient temperature (storage/transport) | -40 °C ... 85 °C |
| Max. permissible relative humidity (operation) | 75 % (on average, 85% infrequently, non-condensing) |
| Max. permissible humidity (storage/transport) | 75 % (on average, 85% infrequently, non-condensing) |
| Shock | 15g |
| Vibration (operation) | 2g |
| Maximum altitude | ≤ 2000 m (Above sea level) |

Input data

| | |
|------------------------------------|---|
| Rated control supply voltage U_s | 24 V DC -15 % / +10 % |
| Power consumption at U_s | typ. 1.08 W |
| Rated control supply current I_s | typ. 45 mA |
| Typical inrush current | 400 mA ($\Delta t < 10 \mu s$ at U_s) |
| Typical pick-up time | < 100 ms (when controlled via A1) |
| Typical release time | < 35 ms (when controlled via A1) |
| Recovery time | 500 ms |
| Status display | 2 x green LEDs |
| Maximum switching frequency | 1 Hz |

Output data

| | |
|-----------------------------|--|
| Contact type | 1 enabling current path |
| | 1 confirmation current path |
| Contact material | AgSnO ₂ (enabling current path) |
| | AgCuNi, + Au (confirmation current path) |
| Minimum switching voltage | 10 V AC/DC (N/O contact) |
| | 20.4 V DC (N/C contact) |
| Maximum switching voltage | 250 V AC/DC (N/O contact) |
| | 26.4 V DC (N/C contact) |
| Nominal current | 6 A (N/O contact) |
| Limiting continuous current | 6 A (N/O contact) |
| | 100 mA (N/C contact) |
| Inrush current, minimum | 3 mA (N/O contact) |
| | 1 mA (N/C contact) |
| Maximum inrush current | 6 A (N/O contact) |
| | 100 mA (N/C contact) |
| Sq. Total current | 36 A ² (see to derating) |
| Switching capacity | min. 30 mW |
| Output fuse | 6 A gL/gG (N/O contact) |
| | 4 A gL/gG (for low-demand applications) |
| | 150 mA fast blow (Confirmation current path) |

Alarm outputs

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Technical data

Alarm outputs

| | |
|--------------------------|--|
| Number of outputs | 1 (digital, PNP) |
| Voltage | 22 V DC ($U_D - 2 V$) |
| Current | max. 100 mA |
| Maximum inrush current | 500 mA ($\Delta t = 1 \text{ ms at } U_s$) |
| Short-circuit protection | no |

General

| | |
|---|--|
| Relay type | Electromechanical relay with forcibly guided contacts in accordance with IEC/EN 61810-3 (EN 50205) |
| Mechanical service life | 10×10^6 cycles |
| Net weight | 118.6 g |
| Mounting type | DIN rail mounting |
| Assembly instructions | See derating curve |
| Degree of protection | IP20 |
| Min. degree of protection of inst. location | IP54 |
| Mounting position | vertical, horizontal, with front of module upward |
| Control | single-channel |
| Stop category | 0 |
| Parameters for IEC 61508 | 2 |
| Designation | Air clearances and creepage distances between the power circuits |
| Standards/regulations | DIN EN 50178, EN 60079-15 |
| Rated surge voltage/insulation | Safe isolation, 6 kV reinforced insulation from control circuit, start circuit, confirmation current path, signal output to the enabling current path; 4 kV/basic insulation between all current paths and housing |
| Rated insulation voltage | 250 V AC |
| Pollution degree | 2 |
| Overvoltage category | III |
| Housing material | PBT |

Connection data

| | |
|---------------------------------------|---------------------|
| Connection method | Screw connection |
| pluggable | no |
| Conductor cross section solid min. | 0.2 mm ² |
| Conductor cross section solid max. | 2.5 mm ² |
| Conductor cross section flexible min. | 0.2 mm ² |
| Conductor cross section flexible max. | 2.5 mm ² |
| Conductor cross section AWG min. | 26 |
| Conductor cross section AWG max. | 12 |
| Stripping length | 12 mm |
| Screw thread | M3 |

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Classifications

eCl@ss

| | |
|------------|----------|
| eCl@ss 5.1 | 27371901 |
| eCl@ss 6.0 | 27371819 |
| eCl@ss 8.0 | 27371819 |

ETIM

| | |
|----------|----------|
| ETIM 5.0 | EC001449 |
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Approvals

Approvals


Approvals

UL Listed / cUL Listed / EAC / cULus Listed

Ex Approvals

Approvals submitted

Approval details

| |
|---|
| UL Listed  |
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| cUL Listed  |
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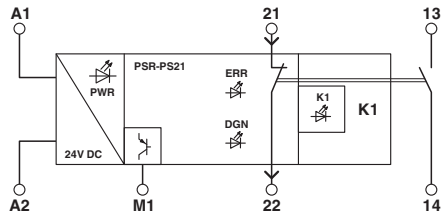
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| EAC |
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Drawings

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Block diagram



Circuit diagram

