

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

The figure shows a version with a screw connection

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)	170 g
Weight per piece (excluding packing)	148 g
Customs tariff number	85364900
Country of origin	DE

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



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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 ⁶ 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

Typ. starting time with U _s	typ. 20 ms (with U _s / when controlled via A1)
Typical release time	typ. 20 ms (At U _s /on demand via A1)
Restart time	< 1 s (Boot time)
Recovery time	< 500 ms

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 ² , R _{contact} = 0.1 Ω )
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

Supply

Rated control circuit supply voltage U _S	24 V AC/DC -15 % / +10 %
Rated control supply current I _S	typ. 47 mA
Power consumption at U _S	typ. 1.2 W
Inrush current	typ. 350 mA DC (Δt < 1 μs at U _S)
	typ. 350 mA AC (Δt = 2 ms at U _S)
Protective circuit	Surge protection
	Varistor

Output data

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Relay: Enabling current paths (13/14, 23/24, 33/34, 43/44, 53/54)

Number of outputs	5
Contact switching type	5 enabling current paths
Contact material	AgSnO ₂
Switching voltage	min. 5 V AC/DC max. 230 V AC/DC
Switching power	min. 50 mW
Inrush current	min. 10 mA max. 6 A
Switching capacity	3 A (24 V (DC13)) 3 A (230 V (AC15))
Switching capacity (360/h cycles)	4 A (24 V (DC13)) 4 A (230 V (AC15))
Limiting continuous current	6 A
Sq. Total current	72 A ²
Switching frequency	max. 0.5 Hz
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) 240 W (N/O contact, 60 V DC, $\tau = 0$ ms) 110 W (N/O contact, 110 V DC, $\tau = 0$ ms) 88 W (N/O contact, 220 V DC, $\tau = 0$ ms) 1380 VA (N/O contact, 230 V AC, $\tau = 0$ ms)
Maximum interrupting rating (inductive load)	42 W (N/O contact, 24 V DC, $\tau = 40$ ms) 42 W (N/O contact, 48 V DC, $\tau = 40$ ms) 42 W (N/O contact, 60 V DC, $\tau = 40$ ms) 42 W (N/O contact, 110 V DC, $\tau = 40$ ms) 42 W (N/O contact, 220 V DC, $\tau = 40$ ms)
Output fuse	10 A gL/gG NEOZED 4 A gL/gG NEOZED (Low demand)

Relay: Signaling current path (61/62, 71/72)

Number of outputs	2
Contact switching type	2 signaling current paths
Contact material	AgSnO ₂
Switching voltage	min. 5 V AC/DC max. 230 V AC/DC
Switching power	min. 50 mW
Inrush current	min. 10 mA max. 6 A
Switching capacity	3 A (24 V (DC13)) 3 A (230 V (AC15))
Switching capacity (360/h cycles)	4 A (24 V (DC13)) 4 A (230 V (AC15))
Limiting continuous current	3 A

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Sq. Total current	72 A ²
Switching frequency	max. 0.5 Hz
Output fuse	6 A gL/gG NEOZED

Connection data

Connection technology

pluggable	yes
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Conductor connection

Connection method	Push-in 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
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
Tightening torque	0.6 Nm

Signaling

Operating voltage display	1 x LED (green)
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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 (EN 60204-1)	0
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Safety data: EN ISO 13849

Performance level (PL)	c
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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 1 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

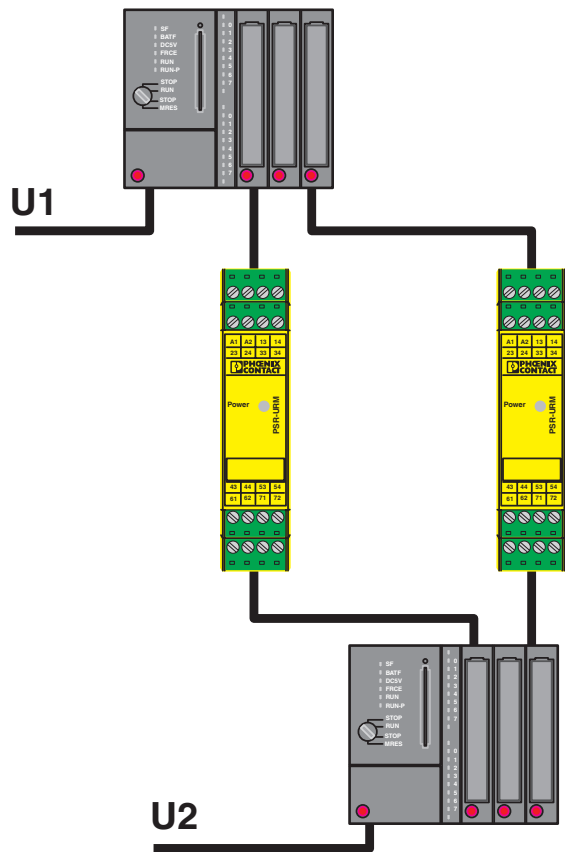
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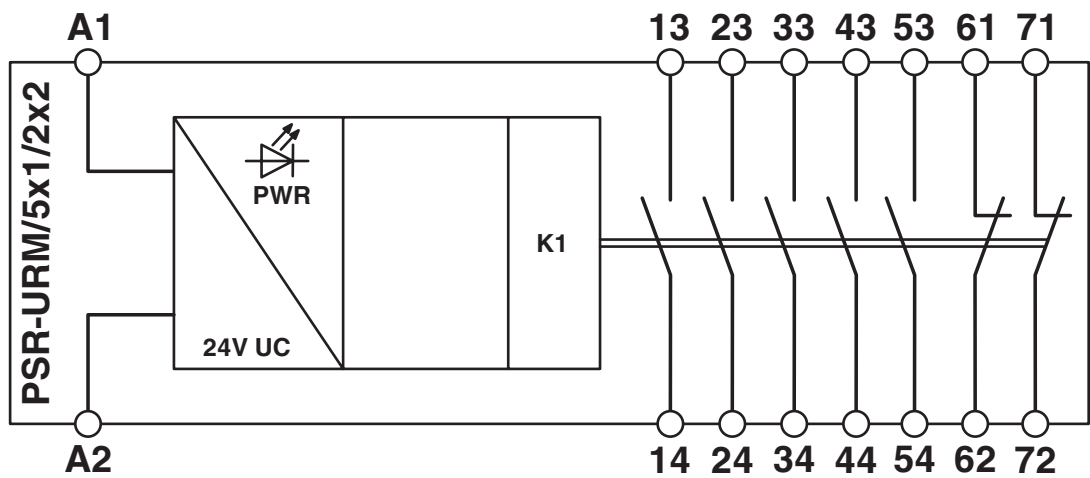
Drawings

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
ECLASS-15.0 ASSET	27250101

ETIM

ETIM 10.0	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-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	e7f53381-e4de-4980-9f18-f5892eb18940

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Phoenix Contact USA
586 Fulling Mill Road
Middletown, PA 17057, United States
(+717) 944-1300
info@phoenixcon.com