

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

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
Catalog page	Page 245 (C-6-2019)
GTIN	4017918904791
Weight per piece (including packing)	181 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
Mechanical service life	10x 10 ⁶ cycles
Relay type	Electromechanical relay with force-guided contacts in accordance with IEC/EN 61810-3


Data management status

Article revision	10
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Times

Restart time	< 1 s (Boot time)
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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 , $R_{\text{contact}} = 0.1 \Omega$ )
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 4 kV between all current paths and housing

Input data

General

Rated control circuit supply voltage U_S	24 V AC/DC -15 % / +10 %
Power consumption at U_S	typ. 1.2 W
Rated control supply current I_S	typ. 47 mA
Input voltage range	20.4 V AC/DC ... 26.4 V AC/DC
Inrush current	typ. 350 mA DC ($\Delta t < 1 \mu s$ at U_S)
	typ. 350 mA AC ($\Delta t = 2$ ms at U_S)
Typ. starting time with U_S	typ. 20 ms (when controlled via A1)
Typical release time	typ. 20 ms (when controlled via A1)
Recovery time	< 500 ms
Maximum switching frequency	0.5 Hz

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Protective circuit	Surge protection; Varistor
Operating voltage display	1 x green LED

Output data

Contact switching type	5 enabling current paths
	2 confirmation current paths
Contact material	AgSnO ₂
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)
	3 A (N/C contact)
Maximum inrush current	6 A
Inrush current, minimum	10 mA
Sq. Total current	72 A ²
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)
Switching capacity	min. 50 mW
Switching capacity in accordance with IEC 60947-5-1	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))
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

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	0.25 mm ² ... 1.5 mm ² (only together with CRIMPFOX 6)

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sleeve	
Conductor cross-section AWG	24 ... 16
Stripping length	8 mm
Tightening torque	0.6 Nm

Dimensions

Width	22.5 mm
Height	114.5 mm
Depth	112 mm

Material specifications

Color (Housing)	yellow (RAL 1018)
Housing material	Polyamide

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

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 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

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



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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	any

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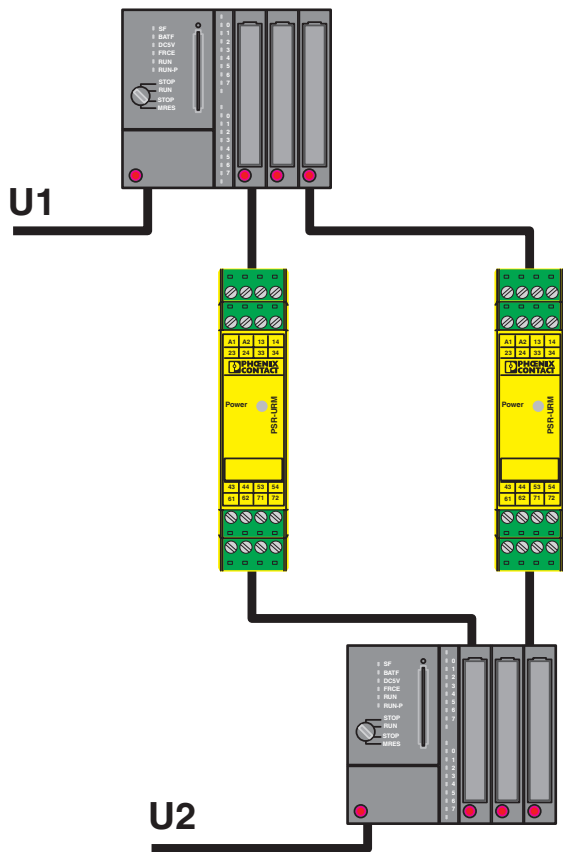


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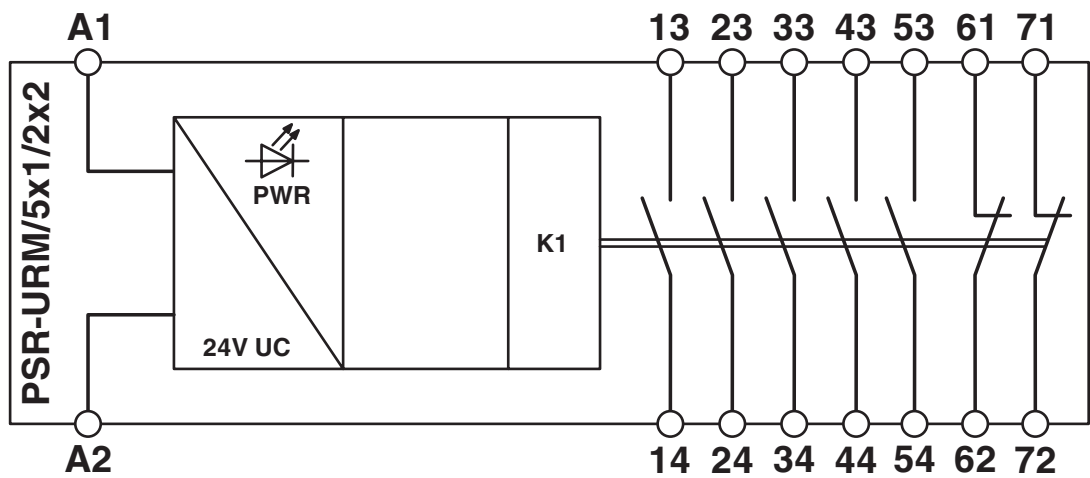
Drawings

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/2963970>




EAC
Approval ID: TR_TS_D_00573_c



Functional Safety
Approval ID: 44-780-15124312



Functional Safety
Approval ID: 44-205-15124312



cULus Listed
Approval ID: E140324

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Classifications

ECLASS

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

ETIM

ETIM 9.0	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-E
	No hazardous substances above the limits
EU REACH SVHC	
REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)
SCIP	e7f53381-e4de-4980-9f18-f5892eb18940

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