

PSR-SPP-120UC/URM/5X1/2X2 - Coupling relay



2981415

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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
- 120 V version

Commercial data

Item number	2981415
Packing unit	1 pc
Note	Made to order (non-returnable)
Sales key	DN01
Product key	DNA162
GTIN	4046356051675
Weight per piece (including packing)	196.2 g
Weight per piece (excluding packing)	135.88 g
Customs tariff number	85364900
Country of origin	DE

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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: Air clearances and creepage distances between the power circuits

Overvoltage category	III
Degree of pollution	2

Times

Typ. starting time with U _s	typ. 20 ms (with U _s when controlled via A1)
Typical release time	20 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	8.8 W (at U _B = 132 V DC, U _S = 120 V, I _S = 11 mA, n = 1, I _L ² = 72 A ² , R _{contact} = 0.1 Ω _{max})
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	4 kV basic insulation (4 kV safe isolation, reinforced insulation between A1/A2, 13/14, 23/24, 33/34 to 43/44, 53/54, 61/62, 71/72)

Supply

Rated control circuit supply voltage U _S	120 V AC/DC -20 % ... +10 %
Rated control supply current I _S	typ. 11 mA
Power consumption at U _S	typ. 1.32 W
Inrush current	typ. 600 mA (Δt = 200 μs at U _S)
Protective circuit	Surge protection; Varistor

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Input data

General

Rated control circuit supply voltage U_S	120 V AC/DC -20 % ... +10 %
Power consumption at U_S	typ. 1.32 W
Rated control supply current I_S	typ. 11 mA
Input voltage range	19.2 V AC/DC ... 26.4 V AC/DC
Inrush current	typ. 600 mA ($\Delta t = 200 \mu s$ 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
Protective circuit	Surge protection; Varistor
Operating voltage display	1 x LED (green)

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 power	min. 50 mW
Switching capacity in accordance with IEC 60947-5-1	3 A (24 V (DC13))
	3 A (230 V (AC 15))
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)

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	6 A gL/gG (N/C contact)
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 power	min. 50 mW
Inrush current	max. 6 A
Switching capacity in accordance with IEC 60947-5-1	3 A (AC15, 250 V)
	3 A (DC13, 24 V)
Switching capacity (360/h cycles)	4 A (AC15, 250 V)
	4 A (DC13, 24 V)
Limiting continuous current	6 A (N/O contact)
	3 A (N/C contact)
Sq. Total current	72 A ² (observe derating)
Switching frequency	max. 0.5 Hz
Mechanical service life	10 ⁷ cycles
Interrupting rating (ohmic load) max.	144 W (N/O contact, 24 V DC, τ = 0 ms)
	288 W (N/O contact, 48 V DC, τ = 0 ms)
	240 W (N/O contact, 60 V DC, τ = 0 ms)
	110 W (N/O contact, 110 V DC, τ = 0 ms)
	88 W (N/O contact, 220 V DC, τ = 0 ms)
	1380 W (N/O contact, 250 V AC, τ = 0 ms)
Maximum interrupting rating (inductive load)	42 W (N/O contact, 24 V DC, τ = 40 ms)
	42 W (N/O contact, 48 V DC, τ = 40 ms)
	42 W (N/O contact, 60 V DC, τ = 40 ms)
	42 W (N/O contact, 110 V DC, τ = 40 ms)
	42 W (N/O contact, 220 V DC, τ = 40 ms)
Output fuse	6 A gL/gG NEOZED (N/C contact)
	4 A gL/gG NEOZED (N/O contact, low demand)
	10 A gL/gG NEOZED (N/O contact)

Relay: Confirmation current paths (61/62, 71/72)

Number of outputs	2
Contact switching type	2 confirmation current paths
Contact material	AgSnO ₂
Switching power	min. 50 mW
Inrush current	min. 10 mA
	max. 6 A
Switching capacity in accordance with IEC 60947-5-1	3 A (DC13, 24 V)
	3 A (AC15, 250 V)
Switching capacity (360/h cycles)	4 A (DC13, 24 V)
	4 A (AC15, 250 V)
Limiting continuous current	6 A (N/O contact)
	3 A (N/C contact)

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Sq. Total current	72 A ² (see to derating)
Mechanical service life	10 ⁷ cycles

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	yellow
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	≤ 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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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	vertical or horizontal

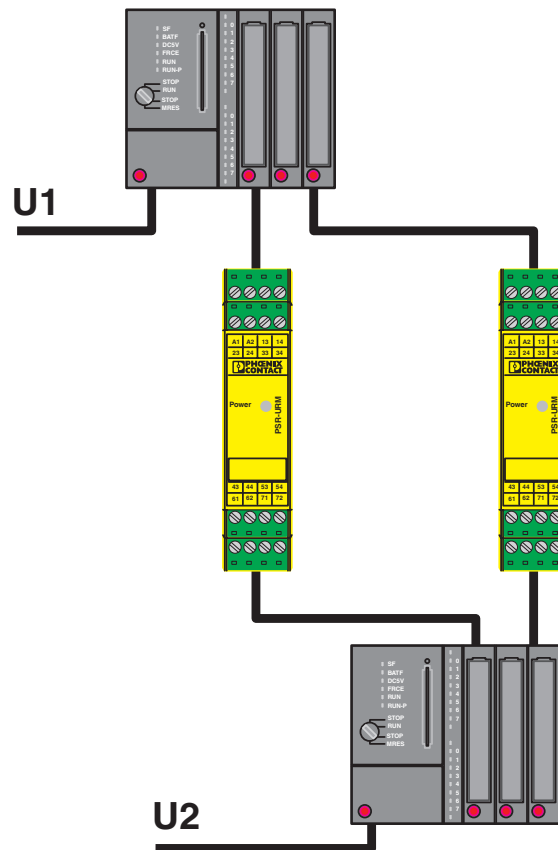
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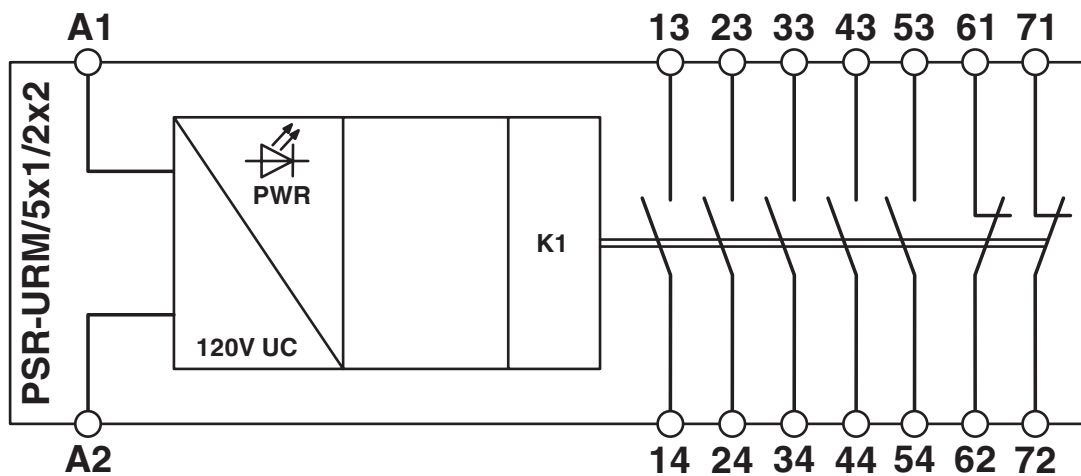
Drawings

Application drawing



Reliable signal exchange between two systems with confirmation function.

Block diagram



Block diagram

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Classifications

ECLASS

ECLASS-13.0	27371601
ECLASS-15.0	27371601

UNSPSC

UNSPSC 21.0	39122334
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Phoenix Contact USA
586 Fulling Mill Road
Middletown, PA 17057, United States
(+717) 944-1300
info@phoenixcon.com