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

2981415

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The figure shows a version with a screw connection

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
- 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

Technical data

Notes

Note on application

Note on application	Only for industrial use

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 A², $R_{contact}$ = 0.1 Ω
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

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 (Δt = 200 µs 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, 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 VA (N/O contact, 230 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)
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)

	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)

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

Connection data

Connection technology

pluggable	yes

Conductor connection

Connection method	Push-in connection
Conductor cross-section, rigid	0.2 mm² ... 1.5 mm²
Conductor cross-section, flexible	0.2 mm² ... 1.5 mm²
Conductor cross-section, flexible, with ferrule, with plastic sleeve	0.25 mm² ... 1.5 mm² (only together with CRIMPFOX 6)
Conductor cross-section, flexible, with ferrule, without plastic sleeve	0.25 mm² ... 1.5 mm² (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)

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

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 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

Standards and regulations

Air clearances and creepage distances between the power circuits

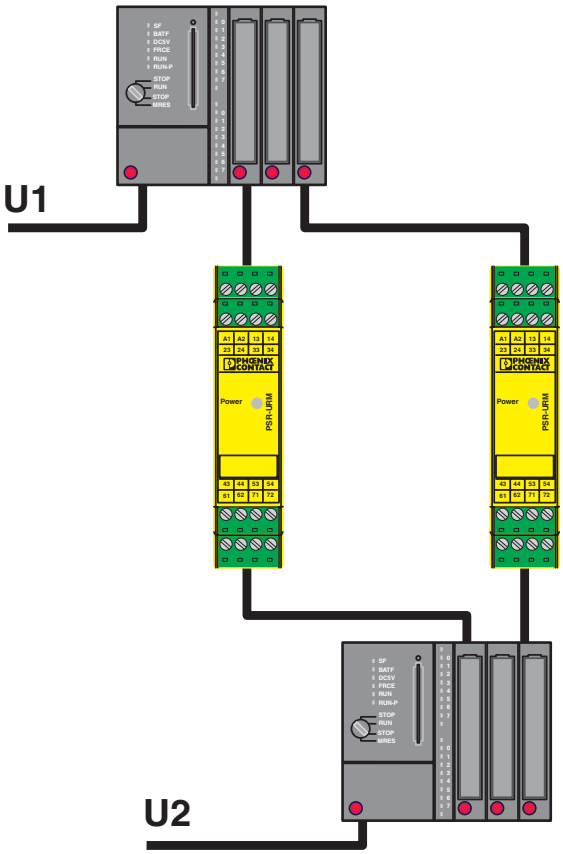
Standards/regulations	DIN EN 50178

Mounting

Mounting type	DIN rail mounting
Mounting position	vertical or horizontal

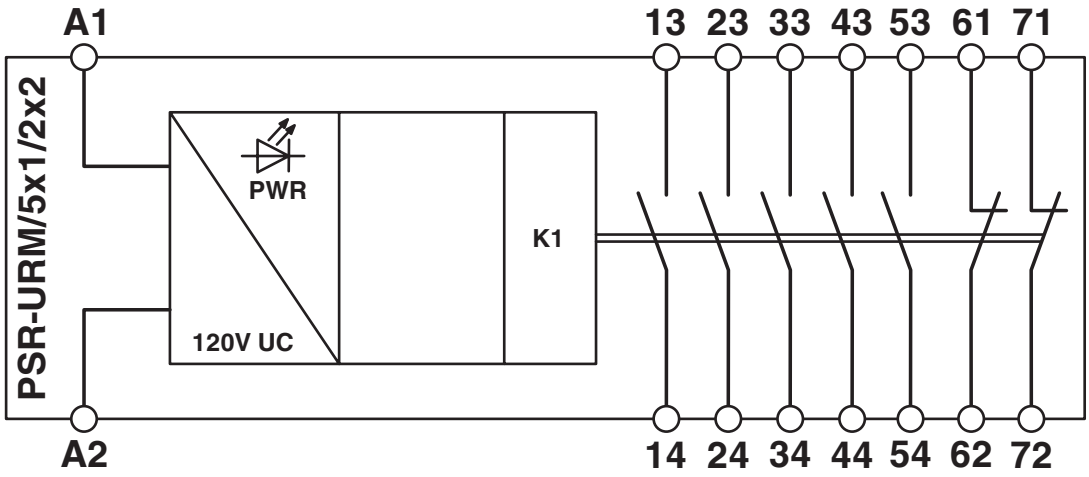
Drawings

Application drawing



Reliable signal exchange between two systems with confirmation function.

Block diagram



Block diagram

Classifications

ECLASS

ECLASS-13.0	27371601
ECLASS-15.0	27371601

UNSPSC

UNSPSC 21.0	39122334

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