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

2981402

https://www.phoenixcontact.com/us/products/2981402

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Safe coupling relay with force-guided contacts, 5 N/O contacts, 2 N/C contacts, 1-channel, plug-in screw terminal block, width: 22.5 mm

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	2981402
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DN01
Product key	DNA162
GTIN	4017918944179
Weight per piece (including packing)	177.03 g
Weight per piece (excluding packing)	150.18 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

Output data

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 capacity	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 capacity	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
Output fuse	6 A gL/gG NEOZED (N/O contact)
	4 A gL/gG NEOZED (N/C contact, low-demand)
	10 A gL/gG NEOZED (N/O contact)

Connection data

Connection technology

pluggable	yes

Conductor connection

Connection method	Screw connection
Conductor cross section rigid	0.2 mm² ... 2.5 mm²
Conductor cross section flexible	0.2 mm² ... 2.5 mm²
Conductor cross-section AWG	24 ... 12
Stripping length	7 mm
Screw thread	M3
Tightening torque	0.6 Nm

Signaling

Operating voltage display	1 x LED (green)

Dimensions

Width	22.5 mm
Height	114.5 mm
Depth	99 mm

Material specifications

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

Characteristics

Safety data

Stop category	0

Safety data: EN ISO 13849

Category	1
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 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

CE

Certificate	CE-compliant

Standards and regulations

Air clearances and creepage distances between the power circuits

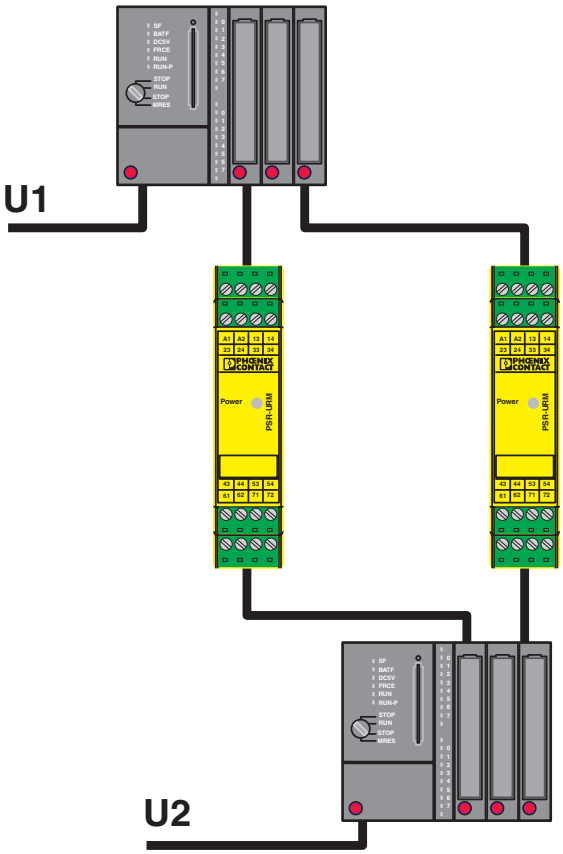
Standards/regulations	DIN EN 50178

Mounting

Mounting type	DIN rail mounting
Mounting position	vertical or horizontal

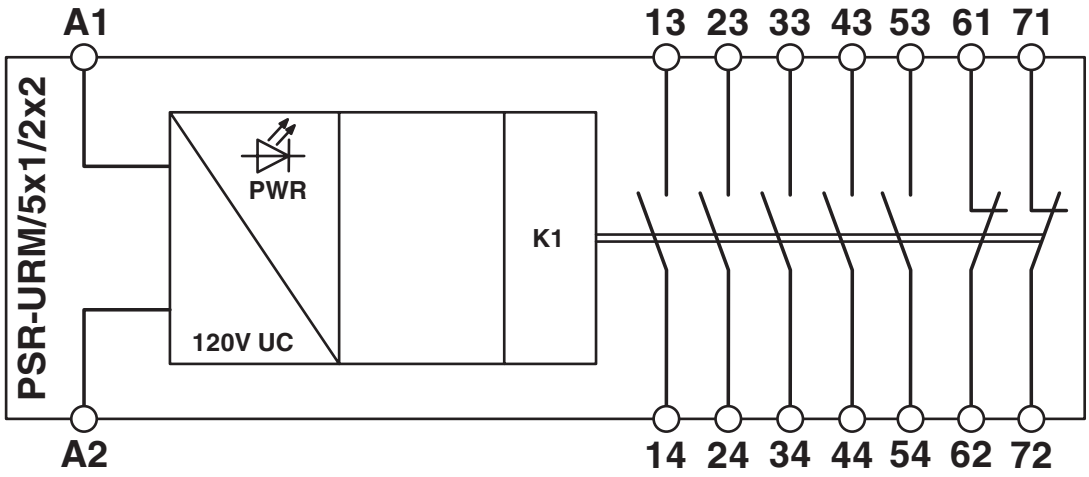
Drawings

Application drawing



Reliable signal exchange between two systems with confirmation function.

Block diagram



Block diagram

Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/2981402

Functional Safety
Approval ID: 3535 2399

Functional Safety
Approval ID: 4478015124312

cULus Listed
Approval ID: E140324

Classifications

ECLASS

ECLASS-13.0	27371819

ETIM

ETIM 8.0	EC001449

UNSPSC

UNSPSC 21.0	39122200

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	581de417-8684-461b-ba17-b89ee96108ac

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