

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



2963970

<https://www.phoenixcontact.com/us/products/2963970>

Please be informed that the data shown in this PDF document is generated from our Online Catalog. Please find the complete data in the user documentation. Our General Terms of Use for Downloads are valid.



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 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
Note	Made to Order (non-returnable)
Sales Key	C18
Product Key	DNA162
Catalog Page	Page 245 (C-6-2019)
GTIN	4017918904791
Weight per Piece (including packing)	181.8 g
Weight per Piece (excluding packing)	148 g
Customs tariff number	85364900
Country of origin	DE

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



2963970

<https://www.phoenixcontact.com/us/products/2963970>

Technical Data

Product properties

Product type	Coupling relay
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

Insulation characteristics

Overvoltage category	II
----------------------	----

Times

Restart time	< 1 s (Boot time)
--------------	-------------------

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 , $R_{\text{contact}} = 0.1 \square$)
Nominal operating mode	100% operating factor
Rated insulation voltage	250 V
Rated insulation voltage	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 ($\Delta t < 1 \mu\text{s}$ 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
Protective circuit	Surge protection; Varistor
Operating voltage display	1 x green LED

Output data

Contact type	5 enabling current paths
	2 confirmation current paths
Contact material	AgSnO ₂

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



2963970

<https://www.phoenixcontact.com/us/products/2963970>

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 according to 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 solid	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

Dimensions

Width	22.5 mm
-------	---------

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



2963970

<https://www.phoenixcontact.com/us/products/2963970>

Height	114.5 mm
Depth	112 mm

Material specifications

Housing material	Polyamide
Housing color	yellow

Characteristics

Safety data

Stop category	0
---------------	---

Safety data: EN ISO 13849

Category	1
Performance level (PL)	c

Safety data: IEC 61508 - High demand

Equipment type	Type A
Safety Integrity Level (SIL)	1
Probability of a hazardous failure per hour (PFH _D)	1.00×10^{-7} (3 A AC15; 8760 switching cycles/year; 5 % of the total SIL)
Proof test interval	240 Months
Duration of use	240 Months

Safety data: IEC 61508 - Low demand

Equipment type	Type A
Safety Integrity Level (SIL)	1
Probability of a hazardous failure on demand (PFD _{AVG})	4.05×10^{-3}
Proof test interval	56 Months
Duration of use	240 Months

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.)

Approval data

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



2963970

<https://www.phoenixcontact.com/us/products/2963970>

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	any

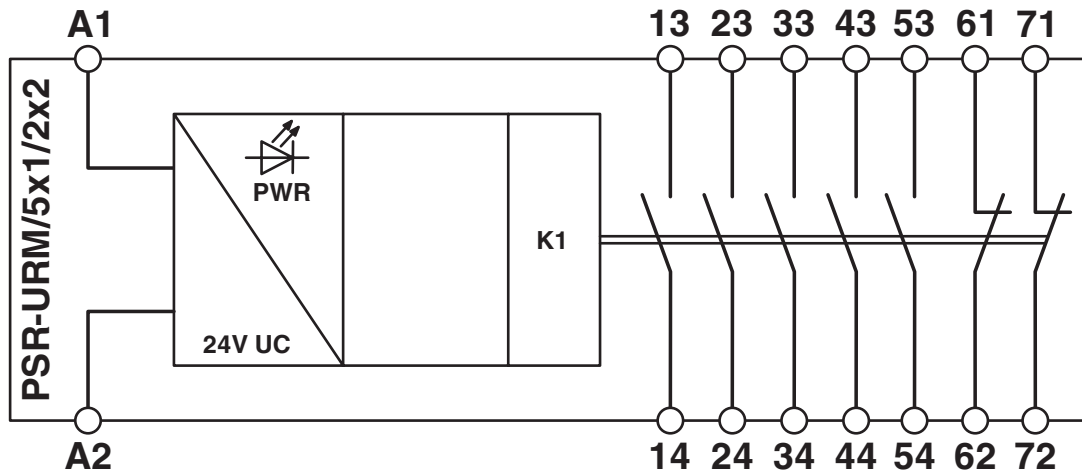
Coupling relay - PSR-SPP- 24UC/URM/5X1/2X2

2963970

<https://www.phoenixcontact.com/us/products/2963970>

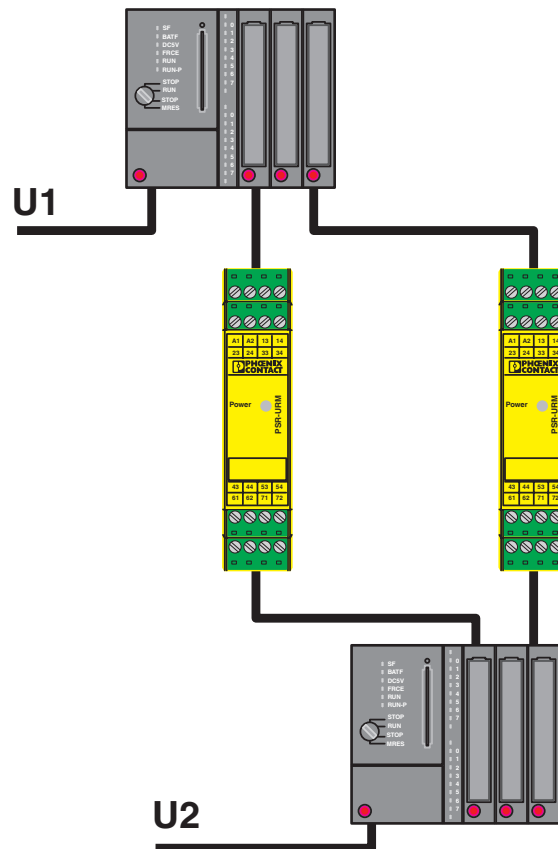
Drawings

Block diagram



Block diagram

Application drawing



Reliable signal exchange between two systems with confirmation function.

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



2963970

<https://www.phoenixcontact.com/us/products/2963970>

Approvals



EAC

Approval ID: TR_TS_D_00573_c



UL Listed

Approval ID: FILE E 140324



cUL Listed

Approval ID: FILE E 140324



Functional Safety

Approval ID: 44-780-15124312



Functional Safety

Approval ID: 44-205-15124312

cULus Listed

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



2963970

<https://www.phoenixcontact.com/us/products/2963970>

Classifications

ECLASS

ECLASS-9.0	27371601
ECLASS-10.0.1	27371601
ECLASS-11.0	27371819

ETIM

ETIM 8.0	EC001449
----------	----------

UNSPSC

UNSPSC 21.0	39122200
-------------	----------

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



2963970

<https://www.phoenixcontact.com/us/products/2963970>

Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads"

Phoenix Contact 2022 © - all rights reserved

<https://www.phoenixcontact.com>

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