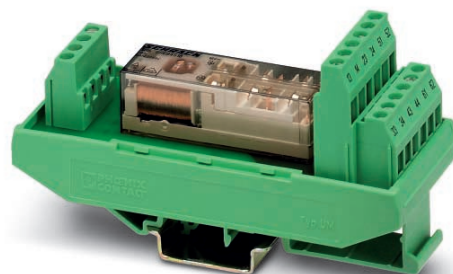


# PSR-.../URM/4X1/2X2

## Universal Safety Relay With Positively Driven Contacts



### INTERFACE

#### Data Sheet

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#### Description

The **PSR-.../URM/4X1/2X2** safety relay is a universal safety relay with positively driven contacts according to EN 50205 application type A.

The relay has four N/O contacts and two N/C contacts with positive drive.

Positively driven contacts have the following characteristics: The contacts in a contact assembly (at least one N/C and one N/O contact) must be connected together mechanically to ensure that the N/C contact and N/O contact cannot be closed at the same time.

A distance of at least 0.5 mm must be maintained between the opened contacts at all times, even in the event of an error.

#### Features

- Contact extension module
- Basic insulation
- Safe isolation (input/output)
- Housing width 40 mm
- Structure height 56 mm
- Four N/O contacts
- Two N/C contacts



Observe the safety instructions on page 4.



Make sure you always use the latest documentation.  
It can be downloaded at [www.download.phoenixcontact.com](http://www.download.phoenixcontact.com).  
A conversion table is available on the Internet at  
[www.download.phoenixcontact.com/general/7000\\_en\\_00.pdf](http://www.download.phoenixcontact.com/general/7000_en_00.pdf).



This data sheet is valid for all products listed on the following page:

## Ordering Data

### Safety Relays

Description	Type	Order No.	Pcs./Pkt.
<b>24 V AC/DC</b>			
Universal safety relay with positive-action contacts, screw connection, 4 N/O contacts, 2 N/C contacts, width: 40 mm	PSR-SCF- 24UC/URM/4X1/2X2	2981444	1
Universal safety relay with positive-action contacts, spring-cage connection, 4 N/O contacts, 2 N/C contacts, width: 40 mm	PSR-SPF- 24UC/URM/4X1/2X2	2981457	1
<b>120 V AC/DC</b>			
Universal safety relay with positive-action contacts, screw connection, 4 N/O contacts, 2 N/C contacts, width: 40 mm	PSR-SCF-120UC/URM/4X1/2X2	2981460	1
Universal safety relay with positive-action contacts, spring-cage connection, 4 N/O contacts, 2 N/C contacts, width: 40 mm	PSR-SPF-120UC/URM/4X1/2X2	2981473	1

### Documentation

Description	Type	Order No.	Pcs./Pkt.
Application manual for PSR safety relays	UM EN SAFETY RELAY APPLICATION	2888712	1

## Technical Data

Input Data	24 V AC/DC	120 V AC/DC
Nominal input voltage $U_N$	24 V AC/DC	120 V AC/DC
Permissible range	$0.8 - 1.1 \times U_N$	$0.8 - 1.1 \times U_N$
Typical current consumption at $U_N$	52 mA	12 mA
Typical response time at $U_N$	10 ms	10 ms
Typical release time at $U_N$	10 ms	10 ms

### Output Data

Contact type: positive-action contacts class A according to EN 50205	4 N/O contacts, 2 N/C contacts	
Contact material	Silver tin oxide (AgSnO <sub>2</sub> )	
Maximum switching voltage	250 V AC/DC	
Minimum switching voltage	15 V AC/DC	
Limiting continuous current <sup>1</sup>		
N/O contact	6 A	
N/C contact	6 A	
Maximum inrush current		
N/O contact	6 A	
N/C contact	6 A	
Minimum switching current	25 mA	
Maximum shutdown power	Ohmic load $\tau = 0$ ms	Inductive load $\tau = 40$ ms
24 V DC	144 W	48 W
48 V DC	288 W	40 W
110 V DC	77 W	35 W
220 V DC	88 W	33 W
250 V AC	1500 VA (750 VA) <sup>1</sup>	
Minimum switching power	0.4 W	
Mechanical service life	10 <sup>7</sup> cycles, approx.	

Output Data (Continued)

Switching capacity according to DIN EN 60947-5-1/VDE 0660-200	<b>Cycles</b>		<b>DC13</b>	<b>AC15</b>
	<b>360/h:</b>	24 V:	6 A	–
		230 V:	–	5 A
	<b>3600/h:</b>	24 V:	3 A	–
		230 V:	–	3 A
Short-circuit protection of the output circuits, external				
Enable current paths		NEOZED 10 A gL/gK		
Signaling current paths		NEOZED 4 A gL/gK		

<sup>1</sup> Total current on request.

General Data

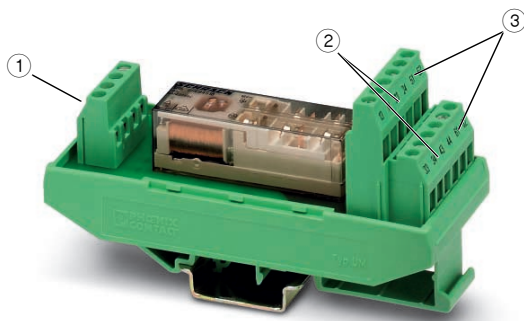
Permissible ambient operating temperature	-20 °C ... +55 °C
Nominal operating mode	100 % ED
Degree of protection according to VDE 0470-1	
Housing	IP20
Connection terminal blocks	IP20
Installation location	IP54, minimum
Mounting position	Any
Air and creepage distances between circuits	
Basic insulation	According to DIN EN 50178:1998-04 1
Impulse voltage withstand level	4 kV 1
Pollution degree	2
Surge voltage category	III
Dimensions (W x H x D)	40 mm x 56 mm x 111 mm
Conductor cross section	0.2 mm² ... 2.5 mm²
Stripping length	
Screw connection	7 mm
Spring-cage connection	10 mm
Housing material	Polyamide PA, not reinforced

1 Safe isolation, reinforced insulation, and 6 kV between the input circuit and the output contact paths.

Tests/Approvals

UL	applied for
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Structure



- 1 A1, A2: Supply voltage connection
- 2 13-14, 23-24, 33-34, 43-44: N/O contacts
- 3 51-52, 61-62: N/C contacts

Figure 1 Structure

## Safety Instructions



- During operation, parts of electrical switching devices carry hazardous voltages.
- Before working on the device, disconnect the power.
- Please observe the safety regulations of electrical engineering and industrial safety and liability associations.  
Disregarding these safety regulations may result in death, serious personal injury or damage to equipment.
- Startup, assembly, modifications, and upgrades may only be carried out by a skilled electrical engineer.



- In the event of an error, replace the device immediately.
- Repairs, especially if the housing must be opened, may only be carried out by the manufacturer or authorized persons. Otherwise the warranty is invalidated.
- According to EN 50205, only one N/O contact and one N/C contact may be used as positively driven contacts.



When operating relay modules the operator must meet the requirements for noise emission for electrical and electronic equipment (EN 61000-6-4) on the contact side and, if required, take appropriate measures.

## Block Diagram

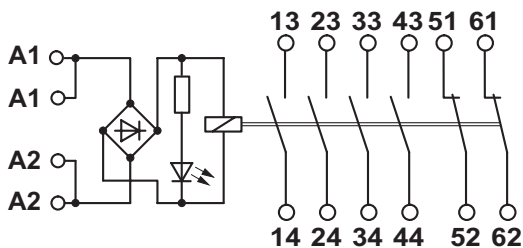


Figure 2 Block diagram

## Connection Notes

In order to comply with UL approval, use copper cables that are designed for operating temperatures  $> 75^{\circ}\text{C}$ .

For reliable and safe-to-touch contacts, strip the cable ends as follows:

Screw connection (PSR-SCF-.../URM/4X1/2X2):  
7 mm

Spring-cage connection (PSR-SPF-.../URM/4X1/2X2):  
10 mm