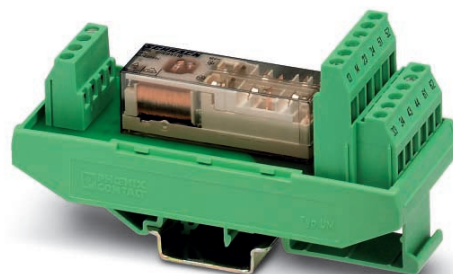


PSR-.../URM/4X1/2X2

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.
A conversion table is available on the Internet at
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. |
|--|---------------------------|-----------|-----------|
| 24 V AC/DC | | | |
| 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 |
| 120 V AC/DC | | | |
| 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 ₂) | |
| Maximum switching voltage | 250 V AC/DC | |
| Minimum switching voltage | 15 V AC/DC | |
| Limiting continuous current ¹ | | |
| 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) ¹ | |
| Minimum switching power | 0.4 W | |
| Mechanical service life | 10 ⁷ cycles, approx. | |

Output Data (Continued)

Switching capacity according to DIN EN 60947-5-1/VDE 0660-200

| Cycles | | DC13 | AC15 |
|---------|--------|------|------|
| 360/h: | 24 V: | 6 A | – |
| | 230 V: | – | 5 A |
| 3600/h: | 24 V: | 3 A | – |
| | 230 V: | – | 3 A |

Short-circuit protection of the output circuits, external

Enable current paths
Signaling current paths

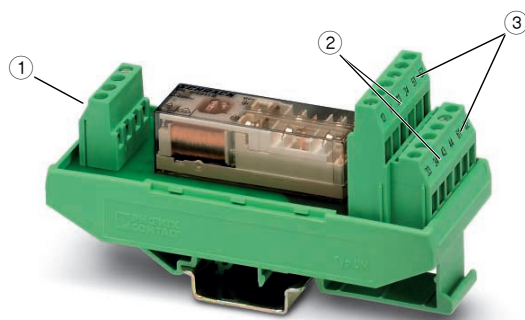
NEOZED 10 A gL/gK
NEOZED 4 A gL/gK

¹ 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 mm ² ... 2.5 mm ² |
| 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

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

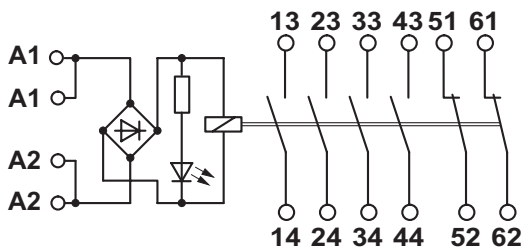


Figure 2 Block diagram

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

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