

# PSR-PC32-2NO-1NC-24-230UC-SC - Coupling relay



2700581

<https://www.phoenixcontact.com/us/products/2700581>

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.



Coupling relay for SIL 3 high and low-demand applications, couples digital signals to the I/O, 24 V ... 230 V wide-range input, 2 enabling current paths (1x up to 60 V, 1x up to 250 V) 1 confirmation current path, safe state off applications, plug-in screw terminal block

## Your advantages

- Up to SIL 3 in accordance with IEC 61508
- Force-guided contacts in accordance with EN 50205
- Easy proof test according to IEC 61508
- Slim design
- Wide-range input
- Corrosion protection through protective coating on the PCB

## Commercial data

Item number	2700581
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DN01
Product key	DNA182
Catalog page	Page 252 (C-6-2019)
GTIN	4046356916066
Weight per piece (including packing)	258.69 g
Weight per piece (excluding packing)	157.28 g
Customs tariff number	85364900
Country of origin	DE

# PSR-PC32-2NO-1NC-24-230UC-SC - Coupling relay



2700581

<https://www.phoenixcontact.com/us/products/2700581>

## Technical data

### Notes

#### Utilization restriction

EMC note	EMC: class A product, see manufacturer's declaration in the download area
----------	---

#### Utilization restriction

CCCex note	Use in potentially explosive areas is not permitted in China.
------------	---

### Product properties

Product type	Coupling relay
Product family	PSRmini
Application	Safe switch off
	High demand
	Low demand
	Ex
Relay type	Electromechanical relay with force-guided contacts in accordance with IEC/EN 61810-3

#### Times

Typical response time	< 100 ms (with $U_s$ when controlled via A1)
Typical release time	< 200 ms (with $U_s$ when controlled via A1)
Recovery time	< 500 ms

### Electrical properties

Maximum power dissipation for nominal condition	5.7 W (at $I_L^2 = 72 A^2$ )
Nominal operating mode	100% operating factor

#### Air clearances and creepage distances between the power circuits

Rated insulation voltage	250 V AC
Rated surge voltage/insulation	Basic insulation 4 kV between all current paths and housing
	Safe isolation, reinforced insulation 2.5 kV between (93/94) and (31/32, 24V/GND)
	Safe isolation, reinforced insulation 6 kV: between (A1/A2) and (13/14) and (31/32, 24V/GND) between (A1/A2) and (93/94) between (13/14) and (93/94)

#### Supply

Rated control circuit supply voltage $U_s$	24 V AC/DC ... 230 V AC/DC -15 % ... +10 %
Rated control supply current $I_s$	75 mA (24 V DC)
	34 mA (48 V DC)
	97 mA (42 V AC)
	28 mA (120 V AC)
	16 mA (230 V AC)

# PSR-PC32-2NO-1NC-24-230UC-SC - Coupling relay



2700581

<https://www.phoenixcontact.com/us/products/2700581>

Power consumption at $U_S$	1.8 W (with DC)
	2.1 W (with AC)
Apparent power	typ. 4.1 VA
Inrush current	typ. 16 A ( $\Delta t < 100 \mu s$ at $U_S$ )
	< 5 mA (at terminal blocks 24V/GND at $U_D$ )
Filter time	10 ms (24 V DC, A1 in the event of voltage dips at $U_S$ )
	max. 1.5 ms (at A1-A2; test pulse width; at 24 V DC)
	7.5 ms (at A1-A2; test pulse rate; at 24 V DC)
	Test pulse rate = 5 x Test pulse width
Diagnostic supply voltage $U_D$	24 V DC -15 % / +10 %
Input current at $U_D$	< 5 mA (at terminal blocks 24V/GND at $U_D$ )
Protective circuit	$U_S$ : surge protection; Varistor 275 V
	$U_D$ : surge protection; 33 V suppressor diode
	$U_D$ : Polarity protection

## Output data

### Relay: Enabling current path

Output description	safety-related N/O contacts
Number of outputs	2 (undelayed)
Contact switching type	2 enabling current paths
Contact material	AgSnO <sub>2</sub>
Switching voltage	min. 12 V AC/DC
	max. 250 V AC/DC (13/14, observe the load curve)
	max. 60 V AC/DC (93/94, observe the load curve)
Switching capacity	min. 60 mW
Inrush current	min. 3 mA
	max. 6 A
Switching capacity (360/h cycles)	4 A (24 V (DC13))
	5 A (230 V (AC 15))
Limiting continuous current	6 A (observe derating)
Sq. Total current	72 A <sup>2</sup> (observe derating)
Switching frequency	max. 1 Hz
Mechanical service life	10x 10 <sup>6</sup> cycles
Output fuse	6 A gL/gG
	4 A gL/gG (for low-demand applications)

### Relay: Confirmation current path

Output description	Safety-related N/C contacts
Number of outputs	1 (undelayed)
Contact switching type	1 confirmation current path
Contact material	AgCuNi, + Au
Switching voltage	min. 3.3 V AC/DC
	max. 26.4 V DC
Switching capacity	min. 3.3 mW

# PSR-PC32-2NO-1NC-24-230UC-SC - Coupling relay



2700581

<https://www.phoenixcontact.com/us/products/2700581>

Inrush current	min. 1 mA
	max. 100 mA
Limiting continuous current	100 mA
Output fuse	150 mA fast blow

## 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

## Signaling

Status display	1 x green LED, 1 x yellow LED
Operating voltage display	1 x yellow LED

## Dimensions

Width	17.5 mm
Height	112.2 mm
Depth	114.5 mm

## Material specifications

Housing material	Polyamide
------------------	-----------

## Characteristics

### Safety data

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

### Safety data: EN 50156-2

Safety Integrity Level (SIL)	3 (Reference IEC 61508)
------------------------------	-------------------------

### Safety data: IEC 61508 - High demand

Safety Integrity Level (SIL)	3 (< 15% of the overall SIL)
------------------------------	------------------------------

### Safety data: IEC 61508 - Low demand

Safety Integrity Level (SIL)	3 (< 15% of the overall SIL)
------------------------------	------------------------------

## Environmental and real-life conditions

### Ambient conditions

Degree of protection	IP20
----------------------	------

# PSR-PC32-2NO-1NC-24-230UC-SC - Coupling relay



2700581

<https://www.phoenixcontact.com/us/products/2700581>

Min. degree of protection of inst. location	IP54
Ambient temperature (operation)	-40 °C ... 70 °C (observe derating)
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
Vibration (operation)	10 Hz ... 150 Hz, 2g

## Approvals

### ATEX

Identification	Ex II 3G Ex ec nC IIC T4 Gc
Certificate	UL 22 ATEX 2912X

### IECEX

Identification	Ex ec nC IIC T4 Gc
Certificate	IECEX UL 22.0037X

### UL, USA/Canada

Identification	cULus
Certificate	E140324

### UL Ex, USA / Canada

Identification	Class I, Zone 2, AEx nA nC IIC T4 / Ex nA nC IIC Gc T4 X Class I, Div. 2, Groups A, B, C, D, T4
Certificate	E360692

### CE

Identification	CE-compliant
----------------	--------------

### Environmental simulation test

Identification	G3
Certificate	ISA-S71.04

### CCC / China-Ex

Identification	Ex ec nC IIC T4 Gc
Certificate	2022122304115695

## Standards and regulations

### Air clearances and creepage distances between the power circuits

Standards/regulations	EN 60664-1, EN 60079-7, EN 60079-15
-----------------------	-------------------------------------

## Mounting

Mounting type	DIN rail mounting
Assembly instructions	See derating curve
Mounting position	vertical or horizontal

# PSR-PC32-2NO-1NC-24-230UC-SC - Coupling relay



2700581

<https://www.phoenixcontact.com/us/products/2700581>

Connection method	Screw connection
-------------------	------------------

# PSR-PC32-2NO-1NC-24-230UC-SC - Coupling relay

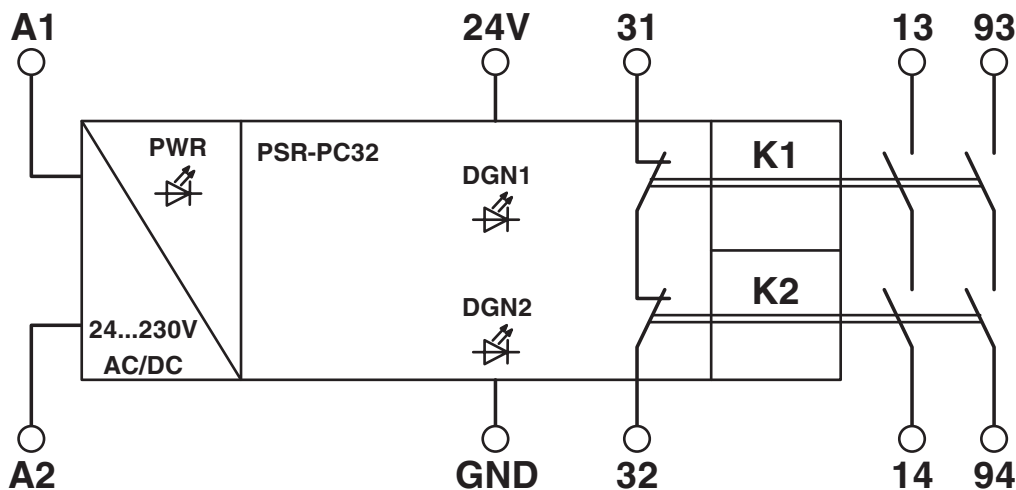


2700581

<https://www.phoenixcontact.com/us/products/2700581>

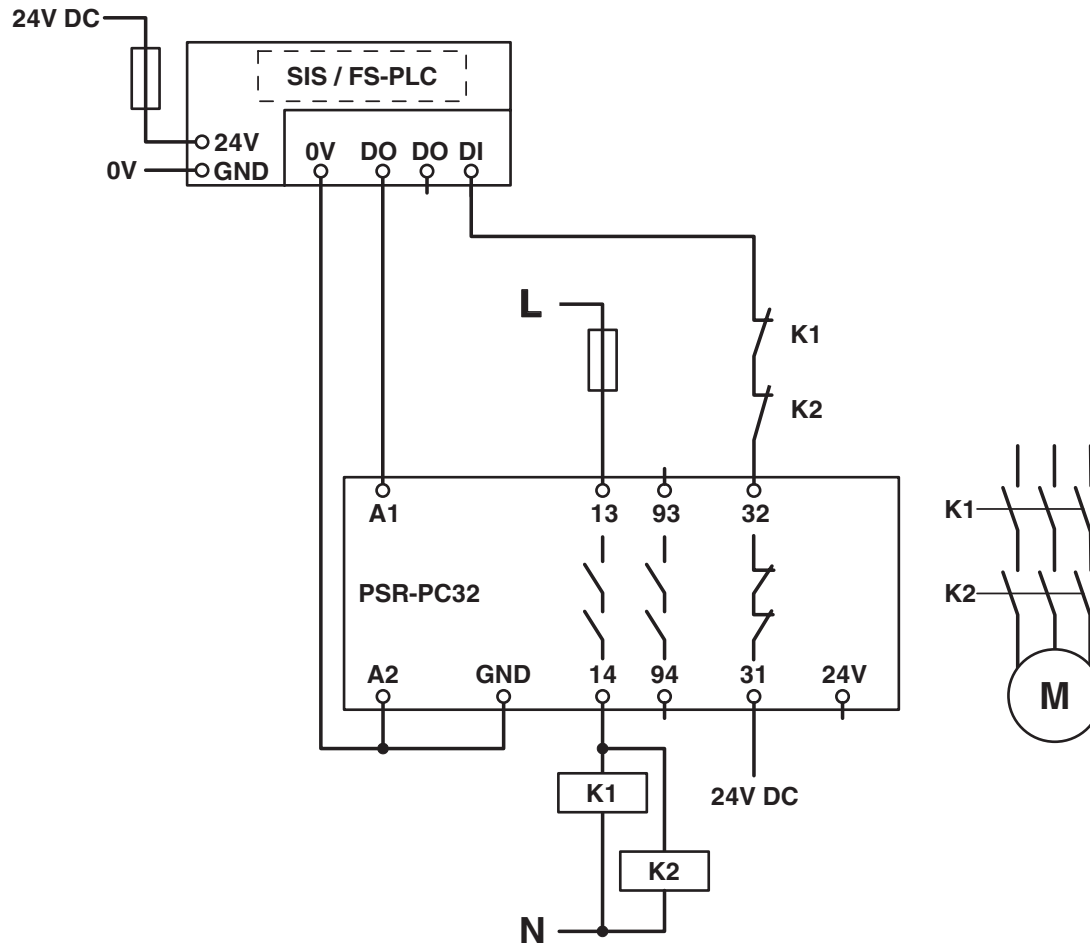
## Drawings

Block diagram



Block diagram

Circuit diagram



2700581

<https://www.phoenixcontact.com/us/products/2700581>

## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2700581>



### UL Listed

Approval ID: FILE E 140324



### cUL Listed

Approval ID: FILE E 140324



### Functional Safety

Approval ID: 44-780-15124308



### Functional Safety

Approval ID: 44-205-15124302



### IECEx

Approval ID: IECEx ULD 14.0003 X



### cUL Listed

Approval ID: File E 360692



### UL Listed

Approval ID: File E 360692



### ATEX

Approval ID: DEMKO 14 ATEX 1284 X

cULus Listed

cULus Listed



# PSR-PC32-2NO-1NC-24-230UC-SC - Coupling relay



2700581

<https://www.phoenixcontact.com/us/products/2700581>

## Classifications

### ECLASS

ECLASS-11.0	27371819
ECLASS-13.0	27371819
ECLASS-12.0	27371819

### ETIM

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

### UNSPSC

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

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 2023 © - 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](mailto:info@phoenixcon.com)