

# PSR-PS20-1NO-1NC-24DC-SC - Coupling relay



2700356

<https://www.phoenixcontact.com/us/products/2700356>

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 output signals to the I/O, 1 enabling current path, 1 confirmation current path, 1 digital signal output, safe state off applications, test pulse filter, fixed 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 thanks to integrated signal contact
- Approved for Class I, Zone 2 applications
- Low housing width of just 6.8 mm
- Long service life thanks to filtering of controller test pulses
- 1 enabling current path, 1 digital signal output, 1 diagnostic current path
- Couples digital output signals from failsafe controllers to I/O devices (valves, etc.) for electrical isolation and power adaptation
- Corrosion protection through protective coating on the PCB

## Commercial data

Item number	2700356
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DN01
Product key	DNA172
GTIN	4046356912891
Weight per piece (including packing)	103.1 g
Weight per piece (excluding packing)	69.773 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	PSRmini
Application	Safe switch off
	High demand
	Low demand
	Ex
Control	1-channel
Relay type	Electromechanical relay with force-guided contacts in accordance with IEC/EN 61810-3

#### Insulation characteristics

Overvoltage category	III
Degree of pollution	2

#### Times

Typ. starting time with $U_s$	< 100 ms (with $U_s$ when controlled via A1)
Typical release time	< 35 ms (when controlled via A1)
Recovery time	500 ms

### Electrical properties

Maximum power dissipation for nominal condition	3.28 W ( $I_L^2 = 36 \text{ A}^2$ )
Nominal operating mode	100% operating factor
Rated insulation voltage	250 V AC
Rated surge voltage/insulation	Safe isolation, 6 kV reinforced insulation from control circuit, start circuit, confirmation current path, signal output to the enabling current path; 4 kV/basic insulation between all current paths and housing

#### Supply

Designation	A1/A2
Rated control circuit supply voltage $U_s$	20.4 V DC ... 26.4 V DC
Rated control circuit supply voltage $U_s$	24 V DC -15 % / +10 %
Rated control supply current $I_s$	typ. 45 mA
Power consumption at $U_s$	typ. 1.08 W
Inrush current	typ. 400 mA ( $\Delta t < 10 \mu\text{s}$ at $U_s$ )
Filter time	max. 2 ms (at A1-A2; test pulse width)
	$\geq 100$ ms (at A1-A2; test pulse rate)
Protective circuit	Serial protection against polarity reversal; Suppressor diode 33 V

# PSR-PS20-1NO-1NC-24DC-SC - Coupling relay



2700356

<https://www.phoenixcontact.com/us/products/2700356>

## Supply

Designation	21/A2
Diagnostic supply voltage $U_D$	24 V DC -15 % / +10 %
Input current at $U_D$	6 mA (at 21-A2 for $U_D$ ; depending on load + 100 mA at M1 and 22)
Inrush current at $U_D$	typ. 2.5 A ( $\Delta t < 20 \mu s$ at $U_D$ )
Protective circuit	Serial protection against polarity reversal; Suppressor diode 38 V

## Output data

### Relay: Enabling current path (13/14)

Output description	2 N/O contacts in series, without delay, floating
Number of outputs	1 (safety-related)
Contact switching type	1 enabling current path
Contact material	AgSnO <sub>2</sub>
Switching voltage	min. 12 V AC/DC max. 250 V AC/DC
Switching power	min. 60 mW
Inrush current	min. 3 mA max. 6 A
Switching capacity	4 A (24 V (DC13)) 5 A (250 V (AC15))
Limiting continuous current	6 A (High demand) 4 A (Low demand)
Sq. Total current	36 A <sup>2</sup> (observe derating)
Switching frequency	max. 0.1 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 (21/22)

Output description	2 N/C contacts in series, without delay, not floating (reference ground: A2)
Number of outputs	1 (safety-related)
Contact switching type	1 confirmation current path
Contact material	AgCuNi, + Au
Switching voltage	min. 20.4 V DC max. 26.4 V DC
Switching power	min. 20 mW
Inrush current	min. 1 mA max. 100 mA
Limiting continuous current	100 mA
Switching frequency	max. 0.1 Hz
Mechanical service life	10x 10 <sup>6</sup> cycles
Output fuse	150 mA Fast-blow

# PSR-PS20-1NO-1NC-24DC-SC - Coupling relay



2700356

<https://www.phoenixcontact.com/us/products/2700356>

Signal: M1

Output description	PNP
Number of outputs	1 (non-safety-related)
Voltage	approx. 22 V DC ( $U_D - 2 V$ )
Current	max. 100 mA
Maximum inrush current	500 mA ( $\Delta t = 1 \text{ ms}$ at $U_s$ )
Short-circuit protection	no
Output fuse	150 mA fast blow

## Connection data

Connection technology

pluggable	no
-----------	----

Conductor connection

Connection method	Screw connection
Conductor cross-section rigid	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross-section flexible	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross-section AWG	26 ... 12
Stripping length	12 mm
Screw thread	M3
Tightening torque	0.5 Nm ... 0.6 Nm

## Signaling

Status display	2 x LED (green)
Operating voltage display	1 x LED (yellow)
Error indication	1 x LED (red)

## Dimensions

Width	6.8 mm
Height	93.1 mm
Depth	102.5 mm

## Material specifications

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

## Characteristics

Safety data

Stop category (EN 60204-1)	0
----------------------------	---

Safety data: EN 50156

Safety Integrity Level (SIL)	3
------------------------------	---

Safety data: IEC 61508 - High demand

2700356

<https://www.phoenixcontact.com/us/products/2700356>

Safety Integrity Level (SIL)	3
Safety data: IEC 61508 - Low demand	
Safety Integrity Level (SIL)	3

## Environmental and real-life conditions

### Ambient conditions

Degree of protection	IP20
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	⊕ 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 ec nC IIC T4 / Ex ec 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

### DNV

# PSR-PS20-1NO-1NC-24DC-SC - Coupling relay



2700356

<https://www.phoenixcontact.com/us/products/2700356>

Identification	C, EMC2
Certificate	11253-14 HH

## Mounting

Mounting type	DIN rail mounting
Assembly note	See derating curve
Mounting position	vertical, horizontal, with front of module upward



2700356

<https://www.phoenixcontact.com/us/products/2700356>

## Approvals

🔗 To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2700356>



### Functional Safety

Approval ID: 44 780 13755203



### Functional Safety

Approval ID: 44 205 13755205



### cULus Listed

Approval ID: E140324



### IECEx

Approval ID: IECEx ULD 22.0037X



### ATEX

Approval ID: UL 22 ATEX 2912X



### cULus Listed

Approval ID: E360692



### CCC

Approval ID: 2022122304115695

# PSR-PS20-1NO-1NC-24DC-SC - Coupling relay



2700356

<https://www.phoenixcontact.com/us/products/2700356>

## Classifications

### ECLASS

ECLASS-13.0	27371819
ECLASS-15.0	27371819

### ETIM

ETIM 10.0	EC001449
-----------	----------

### UNSPSC

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

2700356

<https://www.phoenixcontact.com/us/products/2700356>

## 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	c1b16ea8-35eb-4ce7-b131-533eac3d3e32

Phoenix Contact 2026 © - 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)