

PSR-PC50-1NO-1DO-24DC-SP - Coupling relay



2904665

<https://www.phoenixcontact.com/in/products/2904665>

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 low-demand applications, couples digital output signals to the I/O, 1 enabling current path, module for F&G applications, test pulse filter, width: 17.5 mm, pluggable Push-in terminal block

Your advantages

- Up to SIL 3 in accordance with IEC 61508
- Easy proof test according to IEC 61508 thanks to integrated signal contact
- Installation in zone 2 permitted
- Couples digital output signals from failsafe controllers to I/O devices (valves, etc.) for electrical isolation and power adaptation

Commercial data

Item number	2904665
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DNA
Product key	DNA182
Catalog page	Page 253 (C-6-2019)
GTIN	4046356919920
Weight per piece (including packing)	221.2 g
Weight per piece (excluding packing)	212.4 g
Customs tariff number	85364900
Country of origin	DE

PSR-PC50-1NO-1DO-24DC-SP - Coupling relay



2904665

<https://www.phoenixcontact.com/in/products/2904665>

Technical data

Notes

Note on application

Note on application	Only for industrial use
---------------------	-------------------------

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 on
	Low demand
	Ex
Installation location	IP 54
Control	Single-channel
Relay type	Electromechanical relay with force-guided contacts in accordance with IEC/EN 61810-3

Times

Typ. starting time with U_s	30 ms (when controlled via A1)
Typical release time	30 ms (when controlled via A1)
Recovery time	1 s

Electrical properties

Maximum power dissipation for nominal condition	1.56 W
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	6 kV/safe isolation (through protective impedance)

Supply

Designation	A1/A2 (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. 65 mA
Inrush current	≤ 200 mA
Filter time	< 2 ms (Test pulse duration)
	≥ 100 ms (Test pulse rate)
Protective circuit	Overload protection; Suppressor diode

Supply

Designation	24V/A2
-------------	--------

PSR-PC50-1NO-1DO-24DC-SP - Coupling relay



2904665

<https://www.phoenixcontact.com/in/products/2904665>

Diagnostic supply voltage U_D	24 V DC -15 % / +10 %
Input current at U_D	typ. 15 mA (24V/A2; depending on load M1 +100 mA)
Inrush current at U_D	2.5 A (24V/A2; for 10 μ s)
Protective circuit	Overload protection; Suppressor diode

Input data

Digital: Test points for proof test (T1, T2, T3)

Number of inputs	3
Inrush current	200 mA (Inputs TP1, TP2 and TP3)
Current consumption	typ. 20 mA (Input TP1)
	typ. 18 mA (Input TP2)
	typ. 35 mA (Input TP3)

Output data

Relay: Enabling current path (L-LO-NI-N / L'-LO'-NI'-N')

Output description	safety-related N/O contacts
Number of outputs	1 (undelayed)
Contact switching type	1 enabling current path
Contact material	AgNi, gold-flashed
Switching voltage	min. 15 V AC/DC (without diagnostics)
	min. 20 V AC/DC (with diagnostics)
	max. 250 V AC
	max. 125 V DC
Switching capacity	min. 1.5 W
Inrush current	min. 100 mA
	max. 5 A
Max. permissible overall conductor resistance	< 10 Ω (Max. line resistance in the event of a short circuit of the load between LO and NI (or LO' and NI'))
Limiting continuous current	5 A
Switching frequency	max. 0.5 Hz
Diagnostic threshold	20 Ω ... 18 k Ω (lower/upper)
Mechanical service life	approx. 5x 10 ⁷ cycles

Signal: M1

Output description	non-safety-related
Number of outputs	1 (digital)
Voltage	23 V DC
Current	max. 100 mA
Short-circuit protection	no
Output fuse	150 mA fast blow

Connection data

Connection technology

pluggable	yes
-----------	-----

PSR-PC50-1NO-1DO-24DC-SP - Coupling relay



2904665

<https://www.phoenixcontact.com/in/products/2904665>

Conductor connection

Connection method	Push-in connection
Conductor cross section rigid	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

Signaling

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

Dimensions

Width	17.5 mm
Height	117.4 mm
Depth	114.5 mm

Material specifications

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

Characteristics

Safety data: IEC 61508 - Low demand

Safety Integrity Level (SIL)	3 (15 % of total SIL)
------------------------------	-----------------------

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 ... 65 °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)	2g

Approvals

ATEX

Identification	Ex II 3G Ex ec nC IIC T4 Gc
----------------	-----------------------------

PSR-PC50-1NO-1DO-24DC-SP - Coupling relay



2904665

<https://www.phoenixcontact.com/in/products/2904665>

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

Identification	C, EMC2
Certificate	11253-14 HH

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 note	See derating curve
Mounting position	vertical or horizontal

PSR-PC50-1NO-1DO-24DC-SP - Coupling relay

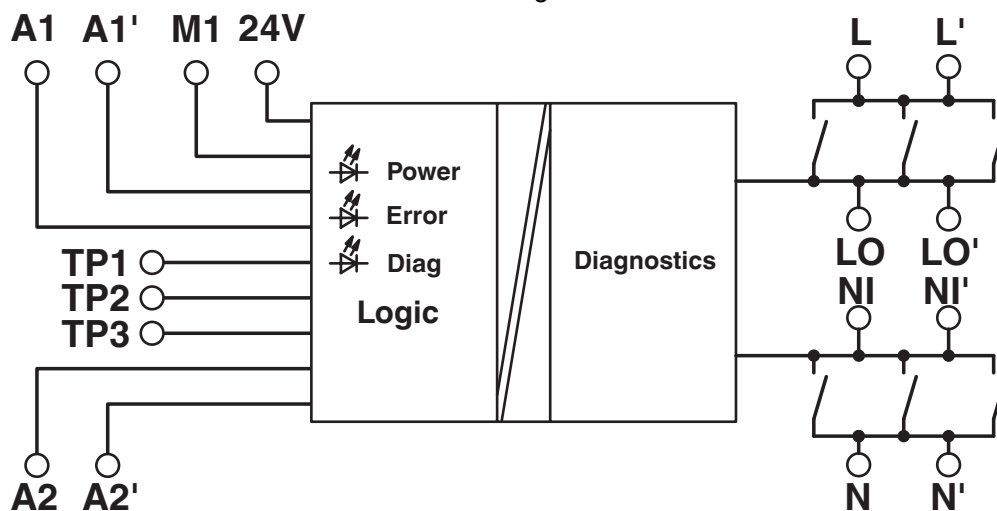


2904665

<https://www.phoenixcontact.com/in/products/2904665>

Drawings

Block diagram



Block diagram

PSR-PC50-1NO-1DO-24DC-SP - Coupling relay



2904665

<https://www.phoenixcontact.com/in/products/2904665>

Approvals

🔗 To download certificates, visit the product detail page: <https://www.phoenixcontact.com/in/products/2904665>



DNV GL

Approval ID: TAA00002VZ



Functional Safety

Approval ID: 968/FSP 1011.02/20



Functional Safety

Approval ID: 968/FSP 1011.02/20



cULus Listed

Approval ID: E140324



IECEx

Approval ID: IECEx ULD 14.0003 X



ATEX

Approval ID: DEMKO 14 ATEX 1284 X



cULus Listed

Approval ID: E360692

PSR-PC50-1NO-1DO-24DC-SP - Coupling relay



2904665

<https://www.phoenixcontact.com/in/products/2904665>

Classifications

ECLASS

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

ETIM

ETIM 9.0	EC001449
----------	----------

UNSPSC

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

PSR-PC50-1NO-1DO-24DC-SP - Coupling relay



2904665

<https://www.phoenixcontact.com/in/products/2904665>

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	e290d4ea-d549-4e8a-a18e-568b46b2bf05

PSR-PC50-1NO-1DO-24DC-SP - Coupling relay



2904665

<https://www.phoenixcontact.com/in/products/2904665>

Accessories

CRIMPFOX 6 - Crimping pliers

1212034

<https://www.phoenixcontact.com/in/products/1212034>



Crimping pliers, for ferrules without insulating collar according to DIN 46228 Part 1 and ferrules with insulating collar according to DIN 46228 Part 4, 0.25 mm² ... 6.0 mm², lateral entry, trapezoidal crimp

Phoenix Contact 2025 © - all rights reserved
<https://www.phoenixcontact.com>

PHOENIX CONTACT (I) Pvt. Ltd.
A-58/2, Okhla Industrial Area, Phase - II, New Delhi-110 020

+91.1275.71420
info@phoenixcontact.co.in