

Coupling relay - PSR-PC52-1NO-1NC-24DC-SP - 1017064

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's documentation. Our General Terms of Use for Downloads are valid (<http://phoenixcontact.com/download>)



Coupling relay for electrical isolation and power adaptation for SIL 3 F&G applications, low demand, load diagnostics in the Off and On state for open circuit and short circuit, 1 enabling current path, test pulse filter, plug-in spring-cage terminal block, width: 17.5 mm


The figure shows a version with a screw connection

Your advantages

- Suitable for low-demand applications up to SIL 3 according to IEC 61508, IEC 61511, and EN 50156
- Earth leakage monitoring
- Configurable Off and On state diagnostics
- Active error acknowledgment via A1 at DO
- Integrated DCS test pulse filter
- 1 enabling current path, 1 signaling current path



Key Commercial Data

Packing unit	1 pc
GTIN	 4 055626 674032
GTIN	4055626674032

Technical data

Note

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

Dimensions

Width	17.5 mm
Height	117.4 mm
Depth	114.5 mm

Ambient conditions

Coupling relay - PSR-PC52-1NO-1NC-24DC-SP - 1017064

Technical data

Ambient conditions

Ambient temperature (operation)	-25 °C ... 60 °C (observe derating)
Ambient temperature (storage/transport)	-40 °C ... 65 °C
Max. permissible relative humidity (operation)	75 % (on average, 85% infrequently, non-condensing)
Max. permissible humidity (storage/transport)	75 % (on average, 85% infrequently, non-condensing)
Air pressure (operation)	79 kPa ... 106 kPa
Air pressure (storage/transport)	79 kPa ... 106 kPa
Maximum altitude	≤ 2000 m (Above sea level)

Power supply

Rated control circuit supply voltage U_S	24 V DC -15 % / +10 %
	20.4 V DC ... 26.4 V DC
Rated control supply current I_S	typ. 75 mA
Power consumption at U_S	typ. 2 W (at U_S/U_D ; On state)
Inrush current	max. 100 mA
Filter time	2 ms (at A1-A2 in the event of voltage dips at U_S)
	max. 2 ms (at A1-A2; low test pulse width)
	≥ 100 ms (at A1-A2; low test pulse rate)
	max. 17 ms (at A1-A2; high test pulse width)
	≥ 800 ms (at A1-A2; high test pulse rate)
Diagnostic supply voltage U_D	24 V DC -20 % / +25 %
Input current at U_D	35 mA (at $U_D = 24$ V)
	45 mA (at $U_D = 19$ V)
	25 mA (at $U_D = 30$ V)
Inrush current at U_D	1.5 A ($\Delta t < 10$ μs)
Power consumption at U_D	typ. 0.9 W (at U_D ; Off state)
Protective circuit	Surge protection 36 V suppressor diode (A1-A2)33 V suppressor diode (24V-GND)
	Polarity reversal protection for rated control circuit supply voltage and diagnostic supply voltage

Digital inputs

Description of the input	Test point for proof test
Number of inputs	3
Inrush current	typ. 200 mA
Current consumption	typ. 20 mA (Input TP1)
	typ. 20 mA (Input TP2)
	typ. 30 mA (Input TP3)
Type of protection	Surge protection
Protective circuit/component	36 V suppressor diode

Relay outputs: enabling current path

Output name	Enabling current path
-------------	-----------------------

Coupling relay - PSR-PC52-1NO-1NC-24DC-SP - 1017064

Technical data

Relay outputs: enabling current path

Output description	safety-related N/O contacts
Number of outputs	1 (undelayed)
Contact type	1 enabling current path
Contact material	AgNi, gold-flashed, Ag alloy
Switching voltage	min. 16 V AC/DC
	max. 250 V AC
	max. 125 V DC
Limiting continuous current	3 A (Observe derating, load type, and on-load voltage)
Inrush current	min. 50 mA
	max. 5 A ($\Delta t \# 1 \text{ s}$)
Sq. Total current	9 A ² (observe derating)
Switching capacity	min. 1 W
Switching frequency	max. 0.5 Hz
Diagnostic threshold	7 Ω ... 20 k Ω (configurable)
Mechanical service life	approx. 5x 10 ⁷ cycles

Relay outputs: return current/signaling current path

Output name	Signaling current path
Output description	non-safety-related N/C contact
Number of outputs	1 (without delay, floating)
Contact type	1 signaling current path
Inrush current	max. 800 mA ($\Delta t \# 100 \text{ ms}$)
Short-circuit protection	no

Times

Typical pickup time at US	typ. 100 ms (when controlled via A1-A2)
Typical release time at US	typ. 30 ms (when controlled via A1-A2)
Recovery time	1 s (when controlled via A1-A2)

General

Relay type	Electromechanical relay
Nominal operating mode	100% operating factor
Net weight	147.16 g
Mounting position	vertical or horizontal
Mounting type	DIN rail mounting
Assembly instructions	See derating curve
Degree of protection	IP20
Min. degree of protection of inst. location	IP54
Housing material	Frianyl A 63 R V0
Housing color	yellow
Status display	1 x yellow LED, 1 x green LED, 1 x red LED

Connection data

Coupling relay - PSR-PC52-1NO-1NC-24DC-SP - 1017064

Technical data

Connection data

Connection method	Spring-cage connection
pluggable	Yes
Conductor cross section solid min.	0.2 mm ²
Conductor cross section solid max.	1.5 mm ²
Conductor cross section flexible min.	0.2 mm ²
Conductor cross section flexible max.	1.5 mm ²
Conductor cross section AWG min.	24
Conductor cross section AWG max.	16
Stripping length	8 mm

Safety-related characteristic data

Designation	IEC 61508 - Low demand
Safety Integrity Level (SIL)	3
Designation	EN 50156-2
Safety Integrity Level (SIL)	3 (Reference IEC 61508)

Standards and Regulations

Designation	Air clearances and creepage distances between the power circuits
Standards/regulations	DIN EN 50178
Rated insulation voltage	250 V AC
Rated surge voltage/insulation	Basic insulation 4 kV between all current paths and housing
	Safe isolation, 6 kV reinforced insulation from (A1/A2, 24V/0V, 21/22, and TP1/TP2/TP3) to the enabling current path (L, L', LO, LO', NI, NI', N,N')
Degree of pollution	2
Overvoltage category	III
Shock	15g, 11 ms
Vibration (operation)	10 Hz ... 150 Hz, 2g
Conformance	CE-compliant
Environmental simulation test	ISA-S71.04 (G3)

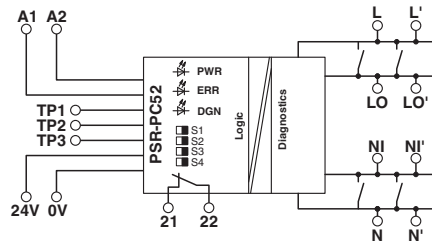
Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

Drawings

Coupling relay - PSR-PC52-1NO-1NC-24DC-SP - 1017064

Block diagram



Approvals

Approvals

Approvals

UL Listed / cUL Listed / cULus Listed

Ex Approvals

Approval details

UL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 140324
-----------	--	---	---------------

cUL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 140324
------------	--	---	---------------

cULus Listed			
--------------	--	--	--

Phoenix Contact 2019 © - all rights reserved
<http://www.phoenixcontact.com>

PHOENIX CONTACT GmbH & Co. KG
Flachsmarktstr. 8
32825 Blomberg
Germany
Tel. +49 5235 300
Fax +49 5235 3 41200
<http://www.phoenixcontact.com>

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [Safety Relays](#) category:

Click to view products by [Phoenix Contact](#) manufacturer:

Other Similar products are found below :

[7-1618103-5](#) [1351-1X](#) [1618082-4](#) [1618111-1](#) [C200HDA003](#) [C200HMR432](#) [C200HMR832](#) [C200HMR833](#) [C28PEDRA](#) [20-050-36X](#)
[C500ETL01](#) [C500OD415CN](#) [2-1618068-0](#) [9-1618103-2](#) [SP10-ETL01](#) [22-060X](#) [C200HNC112](#) [C200HOD214](#) [C500CN812N](#) [4NK0AQY](#)
[1100X](#) [1100-42X](#) [V23050A1012A551](#) [6-1618082-4](#) [7-1618103-6](#) [WTD-101X](#) [SP16DRD](#) [SP16DRA](#) [C500-CE243](#) [C500-IDS02-V1](#)
[607.5111.020](#) [DOLD 48173](#) [CS AR-02V024](#) [CS AR-22V024](#) [CS AR-22V230](#) [CS AR-46V024](#) [750136](#) [PSR-MS21-1NO-1DO-24DC-SC](#)
[600PSR-165/300-CU](#) [SR6V6K18](#) [SR4M4005](#) [BPS 36-1](#) [BP34 - 101057553](#) [2TLA010033R3000](#) [2TLA010033R2000](#) [2TLA010033R0000](#)
[2TLA010028R1000](#) [2TLA010017R0100](#) [2TLA010026R0400](#) [SCR 2-W22-2.5](#)