Coupling relay - PSR-PC50-1NO-1DO-24DC-SC - 2904664

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 SIL 3 low demand applications, couples digital output signals to the periphery, 1 enabling current path, module for F&G applications, test pulse filter, plug-in screw connection, 17.5 mm width

Your advantages

- Up to SIL 3 according to 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

Key Commercial Data

Packing unit	1 pc
GTIN	4 046356 919937
GTIN	4046356919937
Weight per Piece (excluding packing)	220.000 g
Custom tariff number	85364900
Country of origin	Germany

Technical data

Note

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

Dimensions

Width	17.5 mm
Height	112.2 mm
Depth	114.5 mm

Coupling relay - PSR-PC50-1NO-1DO-24DC-SC - 2904664

Technical data

Ambient conditions

Ambient temperature (operation)	-20 °C ... 55 °C
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)
Maximum altitude	≤ 2000 m (Above sea level)

Power supply

Rated control circuit supply voltage U_S	24 V DC -15 % / +10 % (A1/A2)
	20.4 V DC ... 26.4 V DC
Rated control supply current I_S	typ. 65 mA (A1/A2)
Inrush current	≤ 200 mA (A1/A2)
Filter time	< 2 ms (Test pulse duration)
	≥ 100 ms (Test pulse rate)
Diagnostic supply voltage U_D	24 V DC -15 % / +10 % (24V/A2)
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 µs)
Protective circuit	Overload protection Suppressor diode

Digital inputs

Number of inputs	3 (Test point for proof test)
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)

Relay outputs: enabling current path

Output name	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
Switching voltage	min. 15 V AC/DC without diagnostics
	min. 20 V AC/DC (with diagnostics)
	max. 250 V AC
	max. 125 V DC
Limiting continuous current	5 A
Inrush current	min. 100 mA
	max. 5 A
Switching capacity	min. 1.5 W

Coupling relay - PSR-PC50-1NO-1DO-24DC-SC - 2904664

Technical data

Relay outputs: enabling current path

Switching frequency	max. 0.5 Hz
Diagnostic threshold	20 Ω ... 18 kΩ (lower/upper)
Max. permissible overall conductor resistance	< 10 Ω (LO/LO' and NI/NI' and load resistance in the event of a short circuit)
Mechanical service life	approx. 5x 10^7 cycles

Alarm outputs

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

Times

Typical pickup time at US	30 ms (when controlled via A1)
Typical release time at US	30 ms (when controlled via A1)
Recovery time	1 s

General

Relay type	Electromechanical relay with force-guided contacts in accordance with IEC/EN 61810-3
Nominal operating mode	100% operating factor
Net weight	221.1 g
Mounting position	vertical or horizontal
Mounting type	DIN rail mounting
Degree of protection	IP20
Min. degree of protection of inst. location	IP54
Housing material	PBT
Housing color	yellow
Operating voltage display	Yellow LED
Status display	Green LED
Indication	Red LED

Connection data

Connection method	Screw connection
pluggable	Yes
Conductor cross section solid	0.2 mm² ... 2.5 mm²
Conductor cross section flexible	0.2 mm² ... 2.5 mm²
Conductor cross-section AWG	24 ... 12

Coupling relay - PSR-PC50-1NO-1DO-24DC-SC - 2904664

Technical data

Connection data

Stripping length	7 mm
Screw thread	M3

Safety-related characteristic data

Designation	IEC 61508 - Low demand
Safety Integrity Level (SIL)	3 (15 % of total SIL)

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	6 kV/safe isolation (through protective impedance)
Degree of pollution	2
Overvoltage category	III
Shock	15g
Vibration (operation)	2g
Conformance	CE-compliant
ATEX	# II 3 G Ex nA nC IIC T4 Gc
IECEx	Ex nA nC IIC T4 Gc
UL, USA/Canada	cULus
	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
GL	C, EMC2
Environmental simulation test	ISA-S71.04 (G3)

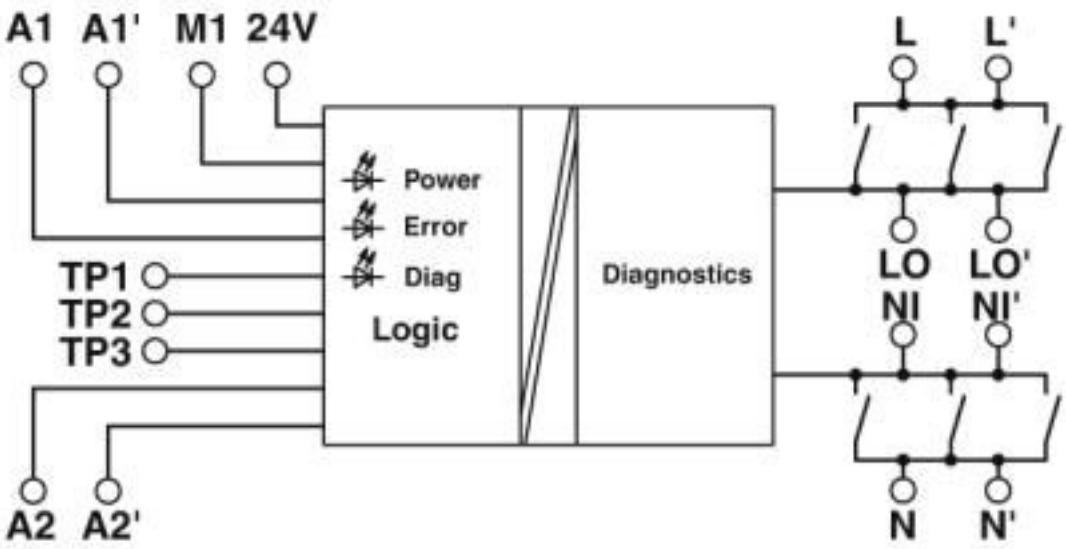
Environmental Product Compliance

REACh SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For details about hazardous substances go to tab “Downloads”, Category “Manufacturer's declaration”

Drawings

Coupling relay - PSR-PC50-1NO-1DO-24DC-SC - 2904664

Block diagram



Classifications

eCl@ss

eCl@ss 10.0.1	27371819
eCl@ss 4.0	40020600
eCl@ss 4.1	40020600
eCl@ss 5.0	27371900
eCl@ss 5.1	27371900
eCl@ss 6.0	27371800
eCl@ss 7.0	27371819
eCl@ss 8.0	27371819
eCl@ss 9.0	27371819

ETIM

ETIM 4.0	EC001449
ETIM 5.0	EC001449
ETIM 6.0	EC001449
ETIM 7.0	EC001449

Approvals

Approvals

Coupling relay - PSR-PC50-1NO-1DO-24DC-SC - 2904664

Approvals

Approvals

GL / EAC / UL Listed / cUL Listed / Functional Safety / Functional Safety / cULus Listed

Ex Approvals

IECEx / ATEX / UL Listed / cUL Listed / cULus Listed

Approval details

GL		https://approvalfinder.dnvgl.com/	11253-14 HH
EAC			RU C-DE.A*30.B.01082
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
Functional Safety			968/FSP 1011.02/20
Functional Safety			968/FSP 1011.02/20
cULus Listed			