

# PSR-PLC21-2CO-24DC-PT - Coupling relay



1480212

<https://www.phoenixcontact.com/us/products/1480212>

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Safe coupling relay with force-guided contacts, electrically isolated, 2 changeover contacts, 1-channel, push-in connection, width: 14 mm

## Commercial data

Item number	1480212
Packing unit	10 pc
Minimum order quantity	10 pc
Sales key	DN01
Product key	DNA162
GTIN	4063151898809
Weight per piece (including packing)	74.38 g
Weight per piece (excluding packing)	70 g
Customs tariff number	85364190
Country of origin	DE

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## Technical data

### Notes

#### Note on application

Note on application	Only for industrial use
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### Product properties

Product type	Coupling relay
Product family	PLC-INTERFACE
Application	Forcibly guided contacts
Mechanical service life	approx. $10^7$ cycles
Relay type	Electromechanical relay in accordance with IEC/EN 61810

#### Insulation characteristics

Overvoltage category	II, III (See the section "Insulation coordination")
Degree of pollution	2

#### Times

Typ. starting time with $U_S$	< 70 ms (when controlled via A1)
Typical release time	< 50 ms (on demand via A1)
Recovery time	500 ms (following demand of the safety function)

### Electrical properties

Maximum power dissipation for nominal condition	4.825 W ( $U_B = 30$ V, $U_S = 24$ V, $I_S = 30$ mA, $I_L^2 = 37$ A, $R_{\text{contact}} = 0.1 \Omega$ )
Nominal operating mode	100% operating factor
Rated insulation voltage	250 V (11/12/14) 150 V (21/22/24)
Rated surge voltage/insulation	See data sheet, section "Insulation coordination".

#### Supply

Designation	A1/A2
Rated control circuit supply voltage $U_S$	21.6 V DC ... 28.8 V DC
Rated control circuit supply voltage $U_S$	24 V DC -10 % / +20 %
Rated control supply current $I_S$	30 mA
Inrush current	typ. 100 mA ( $\Delta t = 10$ ms at $U_S$ )
Filter time	1 ms (Test pulse width, high test pulse and low test pulse) 1 s (Test pulse rate, high test pulse and low test pulse)
Power consumption at $U_D$	650 mW (to $U_S$ )
Protective circuit	Serial protection against polarity reversal Suppressor diode, 38.6 V/600 W
Status display	1 x green LED (PWR)

### Output data

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Relay: Changeover contacts (11/12/14, 21/22/24)

Output description	safety-related
	1001 structure
Number of outputs	2
Contact switching type	2 changeover contacts
Contact material	AgNi
Switching voltage	min. 5 V AC/DC
	max. 250 V AC/DC (11/12/14)
	max. 150 V AC/DC (21/22/24)
	See data sheet, section "Insulation coordination"
Switching power	min. 150 mW (N/O contact / N/C contact)
Inrush current	max. 6 A (N/O contact)
	max. 4 A (N/C contact)
Switching capacity	6 A (AC1, 230 V)
	3 A (AC15, 230 V)
	6 A (DC1, 24 V, N/O contact)
	4 A (DC1, 24 V, N/C contact)
	3 A (DC13, 24 V, N/O contact)
Limiting continuous current	6 A (N/O contact, high demand)
	4 A (N/O contact, low demand)
	4 A (N/C contact, high-demand)
	2.4 A (N/C contact, low-demand)
Sq. Total current	37 A <sup>2</sup> (N/O contact, high-demand, observe derating)
	16 A <sup>2</sup> (N/C contact, high-demand, observe derating)
Switching frequency	max. 1 Hz
Mechanical service life	10 <sup>7</sup> cycles
Output fuse	6 A gL/gG
	4 A gL/gG (for low-demand applications)

## Connection data

Conductor connection

Connection method	Push-in connection
Conductor cross-section rigid	0.14 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross-section flexible	0.14 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross-section, flexible, with ferrule, without plastic sleeve	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross-section AWG	26 ... 14
Stripping length	8 mm

## Signaling

Operating voltage display	1 x green LED (PWR)
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## Dimensions

Width	14 mm
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Height	80 mm
Depth	104 mm

## Material specifications

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

## Characteristics

Safety data: EN ISO 13849

Performance level (PL)	c
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Safety data: IEC 61508 – High-demand for 1-channel wiring (1oo1 structure)

Safety Integrity Level (SIL)	2
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Safety data: IEC 61508 – Low-demand for 1-channel wiring (1oo1 structure)

Safety Integrity Level (SIL)	2
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Safety data: EN IEC 62061

Safety Integrity Level (SIL)	2
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## Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20
Min. degree of protection of inst. location	IP54
Ambient temperature (operation)	-20 °C ... 60 °C (observe derating)
Ambient temperature (storage/transport)	-20 °C ... 85 °C
Maximum altitude	≤ 2000 m (Above sea level)
Max. permissible humidity (storage/transport)	75 % (on average; 95% occasionally, non-condensing)
Max. permissible relative humidity (operation)	75 % (on average; 95% occasionally, non-condensing)
Shock	10g for $\Delta t = 11$ ms (continuous shock: 5g for $\Delta t = 16$ ms)
Vibration (operation)	10 Hz ... 150 Hz, amplitude 0.75 mm, 1g

## Approvals

CE

Identification	CE-compliant
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Electronic devices in rail vehicles

Vibration (operation)	10 Hz ... 150 Hz, amplitude $\pm 0,75$ mm, 1g
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## Mounting

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

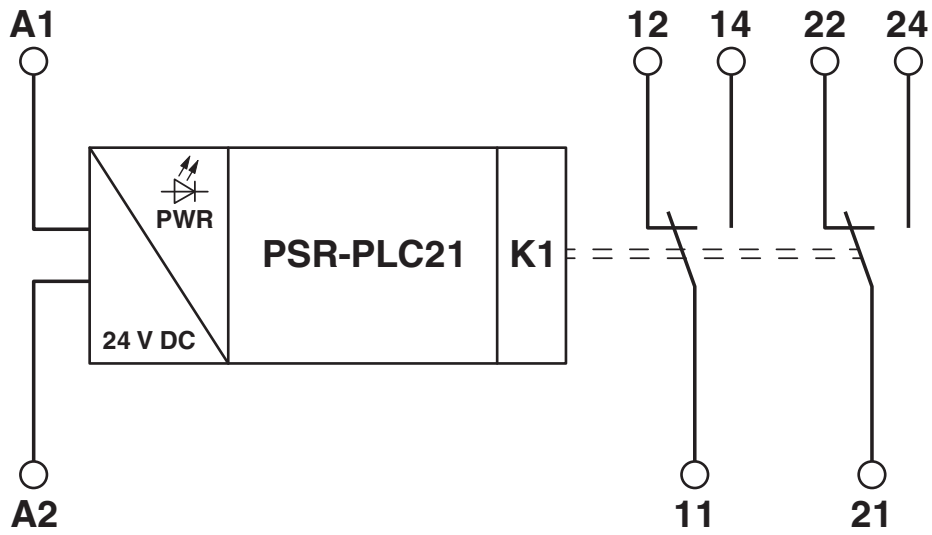
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## Drawings

Block diagram



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1480212>



### Functional Safety

Approval ID: 4478015124326



### cULus Listed

Approval ID: E140324

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## Classifications

### ECLASS

ECLASS-13.0	27371601
ECLASS-15.0	27371601
ECLASS-15.0 ASSET	27250101

### ETIM

ETIM 10.0	EC001437
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### UNSPSC

UNSPSC 21.0	39122300
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## 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.)	No substance above 0.1 wt%
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### EF3.1 Climate Change

CO2e kg	3.582 kg CO2e
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