

PSR-SPF-24UC/URM/4X1/2X2 - Coupling relay



2981457

<https://www.phoenixcontact.com/us/products/2981457>

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Safe coupling relay with force-guided contacts, 4 N/O contacts, 2 N/C contacts, fixed spring-cage terminal block, width: 40 mm



Your advantages

- Suitable up to category 1, PL c (EN ISO 13849-1), SIL 1 (EN IEC 62061), SIL 1 (IEC 61508)
- Safe readback due to force-guided signal contact in accordance with EN 50205
- Easy proof test according to IEC 61508 thanks to integrated signal contact
- 1 or 2-channel control
- 4 enabling current paths, 2 confirmation current paths

Commercial data

Item number	2981457
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DN01
Product key	DNA162
GTIN	4017918987794
Weight per piece (including packing)	123.1 g
Weight per piece (excluding packing)	89 g
Customs tariff number	85364900
Country of origin	DE

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Technical data

Notes

Note on application

Note on application

Only for industrial use

Product properties

Product type	Coupling relay
Product family	PSRclassic
Application	Safe switch off
	High demand
	Low demand
Control	1 and 2 channel
Mechanical service life	10x 10 ⁶ cycles
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

Restart time	< 1 s (Boot time)
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Electrical properties

Maximum power dissipation for nominal condition	8.71 W (at U _B = 26.4 V DC, U _S = 24 V, I _S = 52 mA, n = 1, I _L ² = 72 A ² , R _{contact} = 0.1 Ω ^{IEC 60947})
Nominal operating mode	100% operating factor
Rated insulation voltage	250 V
Rated surge voltage/insulation	Safe isolation, reinforced insulation 6 kV between input circuit (A1/A2) and all output current paths
	Basic insulation 4 kV between all output current paths

Input data

General

Rated control circuit supply voltage U _S	24 V AC/DC -20 % / +10 %
Power consumption at U _S	typ. 1.25 W
Rated control supply current I _S	typ. 52 mA
Input voltage range	19.2 V AC/DC ... 26.4 V AC/DC
Typ. starting time with U _S	typ. 10 ms (when controlled via A1)
Typical release time	typ. 10 ms (when controlled via A1)
Recovery time	< 500 ms
Maximum switching frequency	0.5 Hz
Operating voltage display	1 x LED (green)

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Output data

Contact switching type	4 enabling current paths 2 confirmation current paths
Contact material	AgSnO ₂
Maximum switching voltage	230 V AC/DC (Observe the load curve)
Minimum switching voltage	5 V AC/DC
Limiting continuous current	6 A (N/O contact) 6 A (N/C contact)
Maximum inrush current	6 A
Inrush current, minimum	10 mA
Sq. Total current	72 A ²
Interrupting rating (ohmic load) max.	144 W (N/O contact, 24 V DC, $\tau = 0$ ms) 288 W (N/O contact, 48 V DC, $\tau = 0$ ms) 77 W (N/O contact, 110 V DC, $\tau = 0$ ms) 88 W (N/O contact, 220 V DC, $\tau = 0$ ms)
Maximum interrupting rating (inductive load)	48 W (N/O contact, 24 V DC, $\tau = 40$ ms) 40 W (N/O contact, 48 V DC, $\tau = 40$ ms) 36 W (N/O contact, 60 V DC, $\tau = 40$ ms) 35 W (N/O contact, 110 V DC, $\tau = 40$ ms) 33 W (N/O contact, 220 V DC, $\tau = 40$ ms)
Switching power	min. 50 mW
Output fuse	10 A gL/gG (N/O contact) 4 A gL/gG (N/O contact, for low-demand applications) 6 A gL/gG (N/C contact)

Connection data

Connection technology	
pluggable	no

Conductor connection	
Connection method	Spring-cage 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
Tightening torque	0.6 Nm

Dimensions

Width	40 mm
Height	114.5 mm
Depth	50.1 mm

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Material specifications

Color (Housing)	green (RAL 6021)
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Characteristics

Safety data

Stop category	0
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Safety data: EN ISO 13849

Category	1
Performance level (PL)	c

Safety data: IEC 61508 - High demand

Safety Integrity Level (SIL)	1
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Safety data: IEC 61508 - Low demand

Safety Integrity Level (SIL)	1
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Safety data

Safety Integrity Level (SIL)	1
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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 ... 55 °C
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 (In the event of stress caused by shock, contact reactions are possible for up to 2 ms.)
Vibration (operation)	10 Hz ... 150 Hz, 2g (In the event of stress caused by vibration, contact reactions are possible for up to 2 ms.)

Approvals

CE

Certificate	CE-compliant
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Mounting

Mounting type	DIN rail mounting
Mounting position	vertical or horizontal

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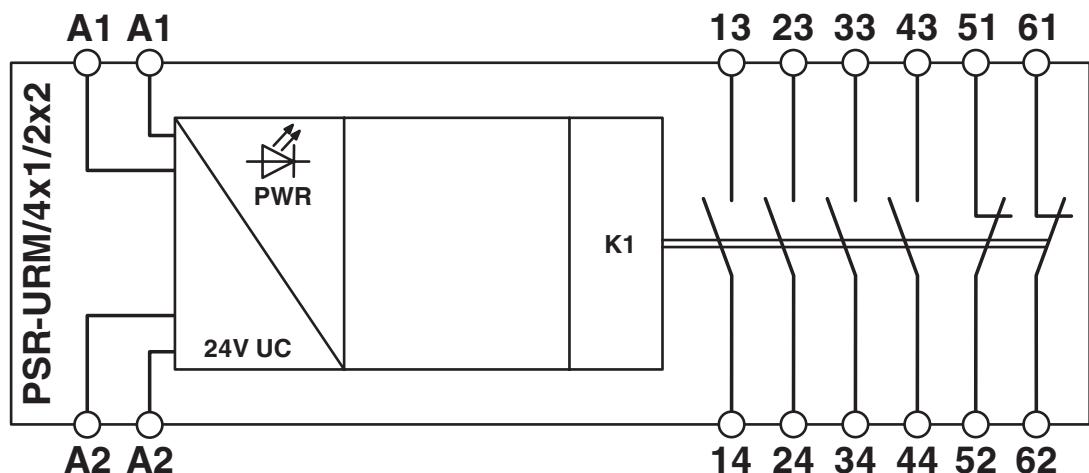


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Drawings

Block diagram



Block diagram

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Approvals

ⓘ To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2981457>



Functional Safety

Approval ID: 3535 2399



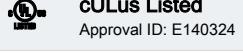
Functional Safety

Approval ID: 3535 2399



cULus Listed

Approval ID: E140324



Functional Safety

Approval ID: 4478015124312



Functional Safety

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Classifications

ECLASS

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

ETIM

ETIM 9.0	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.)	Lead(CAS: 7439-92-1)
SCIP	1d9d8d0d-5a0a-4bbe-8a72-79c31e007769

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