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

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

ELEKTROGERÄTE RÜCKNAHME

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)	115.4 g
Weight per piece (excluding packing)	89 g
Customs tariff number	85364900
Country of origin	DE

Technical data

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

Typ. starting time with U_s	typ. 10 ms (with U_s when controlled via A1)
Typical release time	typ. 10 ms (with U_s when controlled via A1)
Restart time	< 1 s (Boot time)
Recovery time	< 500 ms

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 A², $R_{contact}$ = 0.1 Ω)
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

Supply

Designation	A1/A2
Rated control circuit supply voltage U_S	24 V AC/DC -20 % ... +10 %
Rated control supply current I_S	typ. 52 mA
Power consumption at U_S	typ. 1.25 W
Filter time	1 ms (at A1-A2; test pulse width)
	1 s (at A1-A2; test pulse rate)

Output data

Relay: Enabling current paths (13/14, 23/24, 33/34, 43/44)

Number of outputs	4
Contact switching type	4 enabling current paths
Contact material	$AgSnO_2$

Switching voltage	min. 5 V AC/DC
	max. 250 V AC/DC
Switching power	min. 50 mW
Inrush current	min. 10 mA
	max. 6 A
Switching capacity	5 A (AC15, 250 V)
	5 A (DC13, 24 V)
Limiting continuous current	6 A
Sq. Total current	72 A^2
Switching frequency	max. 0.5 Hz
Mechanical service life	10x 10^6 cycles
Interrupting rating (ohmic load) max.	see load limit curve
Maximum interrupting rating (inductive load)	48 W (N/O contact, 24 V DC, τ = 40 ms)
	40 W (N/O contact, 48 V DC, τ = 40 ms)
	36 W (N/O contact, 60 V DC, τ = 40 ms)
	35 W (N/O contact, 110 V DC, τ = 40 ms)
	33 W (N/O contact, 220 V DC, τ = 40 ms)
Output fuse	10 A gL/gG NEOZED
	4 A gL/gG NEOZED (Low demand)

Relay: Confirmation current paths (51/52, 61/62)

Number of outputs	2
Contact switching type	2 confirmation current paths
Contact material	$AgSnO_2$
Switching voltage	min. 5 V AC/DC
	max. 250 V AC/DC
Switching power	min. 50 mW
Inrush current	min. 10 mA
	max. 6 A
Switching capacity	5 A (DC13, 24 V)
	5 A (AC15, 250 V)
Limiting continuous current	6 A
Sq. Total current	72 A^2
Mechanical service life	10x 10^6 cycles
Output fuse	6 A gL/gG NEOZED

Connection data

Connection technology

pluggable	no

Conductor connection

Connection method	Spring connection
Conductor cross-section rigid	0.2 mm² ... 1.5 mm²
Conductor cross-section flexible	0.2 mm² ... 1.5 mm²

Conductor cross-section, flexible, with ferrule, with plastic sleeve	0.25 mm² ... 1.5 mm² (only together with CRIMPFOX 6)
Conductor cross-section, flexible, with ferrule, without plastic sleeve	0.25 mm² ... 1.5 mm² (only together with CRIMPFOX 6)
Conductor cross-section AWG	24 ... 16
Stripping length	8 mm

Signaling

Operating voltage display	1 x LED (green)

Dimensions

Width	40 mm
Height	114.5 mm
Depth	50.1 mm

Material specifications

Color (Housing)	green (RAL 6021)
Material	PBT

Characteristics

Safety data

Stop category (EN 60204-1)	0

Safety data: EN ISO 13849

Performance level (PL)	c

Safety data: IEC 61508 - High demand

Safety Integrity Level (SIL)	1

Safety data: IEC 61508 - Low demand

Safety Integrity Level (SIL)	1

Safety data

Safety Integrity Level (SIL)	1

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

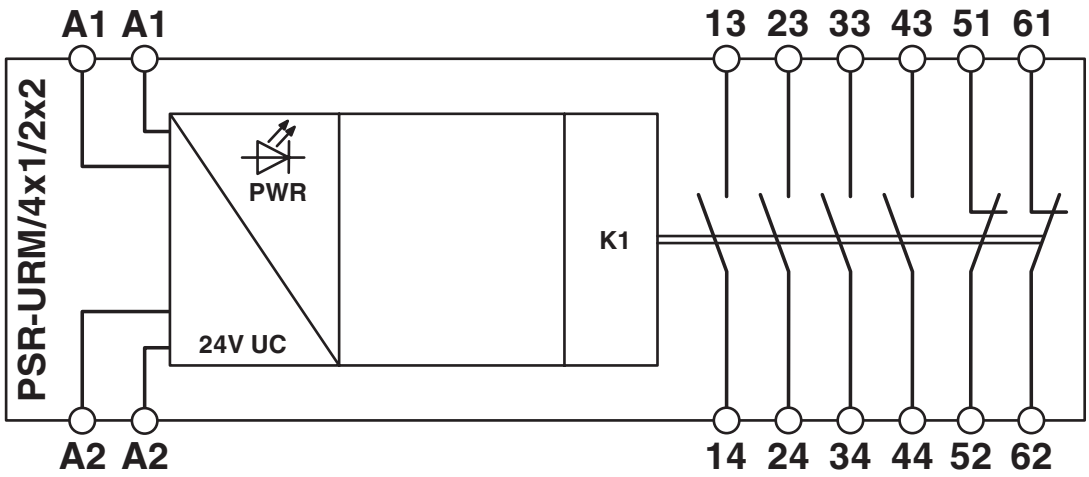
Certificate	CE-compliant

Mounting

Mounting type	DIN rail mounting
Mounting position	vertical or horizontal

Drawings

Block diagram



Block diagram

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: 4478015124312

cULus Listed
Approval ID: E140324

Classifications

ECLASS

ECLASS-13.0	27371601
ECLASS-15.0	27371601

ETIM

ETIM 10.0	EC001437

UNSPSC

UNSPSC 21.0	39122300

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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