

Coupling relay - PSR-SCP- 24UC/URM/3X1/3X2



2981839

<https://www.phoenixcontact.com/gb/products/2981839>

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Safe coupling relay with force-guided contacts, 3 N/O contacts, 3 N/C contacts, plug-in screw terminal block, width: 22.5 mm

Your advantages

- Up to Cat. 1/PL c in accordance with EN ISO 13849-1, SIL 1 in accordance with 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
- 3 enabling current paths, 3 confirmation current paths

Commercial Data

Item number	2981839
Packing unit	1 pc
Minimum order quantity	1 pc
Sales Key	DNA162
Product Key	DNA162
Catalog Page	Page 246 (C-6-2019)
GTIN	4046356138604
Weight per Piece (including packing)	153.7 g
Weight per Piece (excluding packing)	126.9 g
Customs tariff number	85364900
Country of origin	DE

Technical Data

Notes

Utilization restriction

EMC note	EMC: class A product, see manufacturer's declaration in the download area
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Product properties

Product type	Coupling relay
Application	Safe switch off
	High demand
	Low demand
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
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Times

Restart time	< 1 s (Boot time)
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Electrical properties

Maximum power dissipation for nominal condition	6.11 W (at $U_B = 26.4$ V DC, $U_S = 24$ V, $I_S = 45$ mA, $n = 1$, $I_L^2 = 48$ A ² , $R_{\text{contact}} = 0.1$ \square)
Nominal operating mode	100% operating factor
Rated insulation voltage	250 V
Rated insulation voltage	250 V
Rated surge voltage/insulation	4 kV / Basic isolation, (safe isolation, reinforced insulation and 6 kV between input circuit and enabling current paths.)

Supply

Rated control circuit supply voltage U_S	20.4 V AC/DC ... 26.4 V AC/DC
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Input data

General

Rated control circuit supply voltage U_S	24 V AC/DC -15 % / +10 %
Power consumption at U_S	typ. 1.08 W
Rated control supply current I_S	typ. 45 mA
Input voltage range	20.4 V AC/DC ... 26.4 V AC/DC
Inrush current	typ. 350 mA DC ($\Delta t < 1$ μ s at U_S)
	typ. 350 mA AC ($\Delta t = 2$ ms at U_S)
Typ. starting time with U_S	typ. 15 ms (when controlled via A1)
Typical release time	typ. 15 ms (when controlled via A1)
Recovery time	< 500 ms

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Maximum switching frequency	0.5 Hz
Protective circuit	Surge protection; Suppressor diode
Operating voltage display	1 x green LED

Output data

Contact type	3 enabling current paths
	3 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	8 A
Inrush current, minimum	10 mA
Sq. Total current	48 A ²
Interrupting rating (ohmic load) max.	For additional values, see load 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)
Switching capacity	min. 50 mW
Switching capacity according to IEC 60947-5-1	5 A (24 V (DC13))
	5 A (230 V (AC 15))
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	yes
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Conductor connection

Connection method	Screw connection
Conductor cross section solid	0.2 mm ² ... 2.5 mm ²
Conductor cross section flexible	0.2 mm ² ... 2.5 mm ²
Conductor cross-section AWG	24 ... 12
Stripping length	7 mm
Screw thread	M3
Tightening torque	0.6 Nm

Dimensions

Width	22.5 mm
Height	114.5 mm

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Depth	99 mm
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Material specifications

Housing material	Polyamide
Housing color	yellow

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

Equipment type	Type A
Safety Integrity Level (SIL)	1
Probability of a hazardous failure per hour (PFH _D)	$4,00 \times 10^{-7}$ (3 A AC15; 8760 switching cycles/year; 5 % of the total SIL)
Proof test interval	240 Months
Duration of use	240 Months

Safety data: IEC 61508 - Low demand

Equipment type	Type A
Safety Integrity Level (SIL)	1
Probability of a hazardous failure on demand (PFD _{AVG})	$4,05 \times 10^{-3}$
Proof test interval	56 Months
Duration of use	240 Months

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 ... 70 °C
Maximum altitude	max. 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 1 ms.)

Approval data

CE

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Certificate	CE-compliant
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Standards and regulations

Air clearances and creepage distances between the power circuits

Standards/regulations	DIN EN 50178
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Mounting

Mounting type	DIN rail mounting
Mounting position	vertical or horizontal

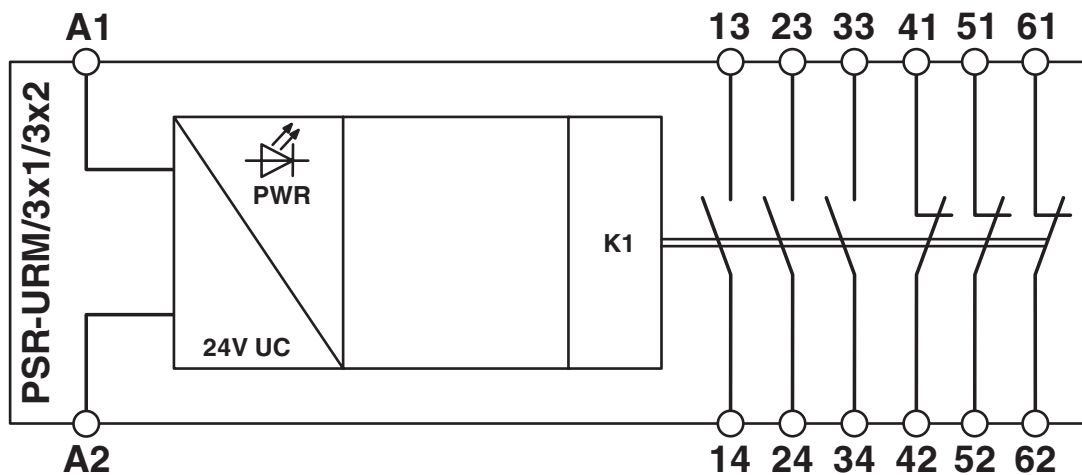
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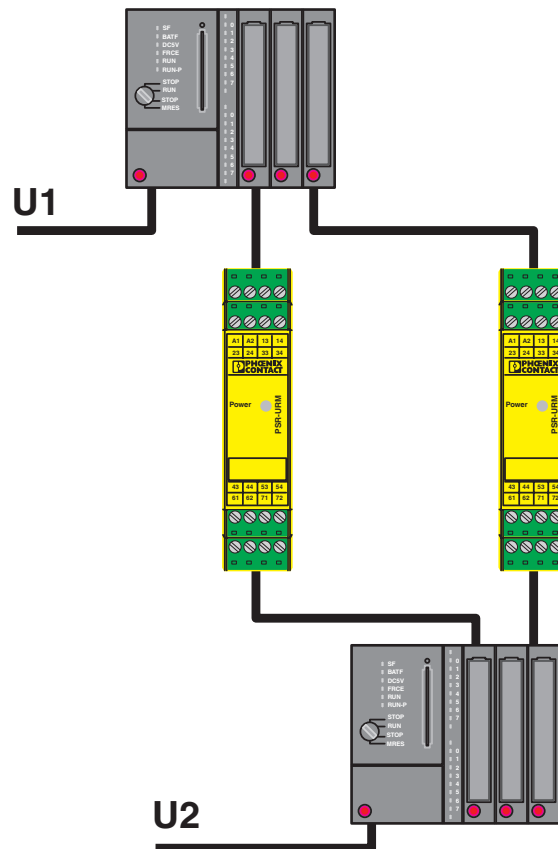
Drawings

Block diagram



Block diagram

Application drawing



Reliable signal exchange between two systems with confirmation function.

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Approvals



EAC

Approval ID: TR_TS_D_00573_c



UL Listed

Approval ID: FILE E 140324



cUL Listed

Approval ID: FILE E 140324



Functional Safety

Approval ID: 44-780-15124312



Functional Safety

Approval ID: 44-205-15124312

cULus Listed

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Classifications

ECLASS

ECLASS-9.0	27371601
ECLASS-10.0.1	27371601
ECLASS-11.0	27371819

ETIM

ETIM 8.0	EC001449
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UNSPSC

UNSPSC 21.0	39122200
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Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
	Hexahydromethylphthalic anhydride
China RoHS	Environmentally Friendly Use Period = 50 years
	For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads"

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