

Coupling relay - PSR-PC32-2NO-1NC-24-230UC-SP - 2700582

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Coupling relay for SIL 3 high and low-demand applications, couples digital signals to the I/O, 24 V ... 230 V wide-range input, 2 enabling current paths (1x up to 60 V, 1x up to 250 V) 1 confirmation current path, safe state off applications, plug-in spring-cage terminal block

The figure shows a version with a screw connection

Your advantages

- Up to SIL 3 according to IEC 61508
- Forcibly guided contacts according to EN 50205
- Easy proof test according to IEC 61508
- Slim design
- Wide-range input



Key commercial data

package_quantity	1
GTIN	4046356916370

Technical data

Note

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

Width	17.5 mm
Height	117.4 mm
Depth	114.5 mm

Ambient conditions

Ambient temperature (operation)	-40 °C ... 70 °C (observe derating)
Ambient temperature (storage/transport)	-40 °C ... 85 °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)
Shock	15g
Vibration (operation)	10 Hz ...150 Hz, 2g
Maximum altitude	≤ 2000 m (Above sea level)

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Input data

Rated control circuit supply voltage U_s	24 V AC/DC ... 230 V AC/DC -15 % ... +10 %
Rated control supply current I_s	75 mA (24 V DC)
Rated control supply current I_s	34 mA (48 V DC)
Rated control supply current I_s	97 mA (42 V AC)
Rated control supply current I_s	28 mA (120 V AC)
Rated control supply current I_s	16 mA (230 V AC)
Power consumption at U_s	1.8 W (with DC)
Power consumption at U_s	2.1 W (with AC)
Inrush current	typ. 16 A ($\Delta t = 100 \mu s$ at U_s)
Typical response time	< 100 ms (with U_s when controlled via A1)
Typical release time	< 200 ms (with U_s when controlled via A1)
Recovery time	< 500 ms
Status display	1 x green LED, 1 x yellow LED
Maximum switching frequency	1 Hz
Filter time	10 ms (24 V DC, A1 in the event of voltage dips at U_s)
Filter time	max. 1.5 ms (at A1-A2; test pulse width; at 24 V DC)
Filter time	7.5 ms (at A1-A2; test pulse rate; at 24 V DC)
Filter time	Test pulse rate = 5 x Test pulse width

Output data

Contact type	2 enabling current paths
Contact type	1 confirmation current path
Contact material	AgSnO ₂ (enabling current path)
Contact material	AgCuNi, + Au (confirmation current path)
Minimum switching voltage	12 V AC/DC (N/O contact)
Minimum switching voltage	3.3 V AC/DC (N/C contact)
Maximum switching voltage	250 V AC/DC (13/14, observe the load curve)
Maximum switching voltage	60 V AC/DC (93/94, observe the load curve)
Maximum switching voltage	26.4 V DC (N/C contact)
Limiting continuous current	6 A (N/O contact, pay attention to the derating)
Limiting continuous current	100 mA (N/C contact)
Inrush current, minimum	3 mA (N/O contact)
Inrush current, minimum	1 mA (N/C contact)
Maximum inrush current	6 A (N/O contact)
Maximum inrush current	100 mA (N/C contact)
Sq. Total current	72 A ² (observe derating)
Switching capacity	min. 60 mW (N/O contact)
Switching capacity	min. 3.3 mW (N/C contact)
Output fuse	6 A gL/gG (N/O contact)
Output fuse	4 A gL/gG (N/O contact, for low-demand applications)
Output fuse	150 mA fast blow (Confirmation current path)

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General

Relay type	Electromechanical relay with forcibly guided contacts in accordance with IEC/EN 61810-3 (EN 50205)
Mechanical service life	10 x 10 ⁶ cycles
Nominal operating mode	100% operating factor
Net weight	226.5 g
Mounting type	DIN rail mounting
Assembly instructions	See derating curve
Mounting position	vertical or horizontal
Degree of protection	IP20
Min. degree of protection of inst. location	IP54
Control	one and two channel
Housing material	PBT
Housing color	yellow

Connection data

Connection method	Spring-cage connection
pluggable	Yes
Conductor cross section solid min.	0.2 mm ²
Conductor cross section solid max.	1.5 mm ²
Conductor cross section flexible min.	0.2 mm ²
Conductor cross section flexible max.	1.5 mm ²
Conductor cross section AWG min.	24
Conductor cross section AWG max.	16
Stripping length	8 mm

Safety-related characteristic data

Stop category	0
Designation	IEC 61508 - High demand
Safety Integrity Level (SIL)	3 (< 15% of the overall SIL)
Designation	IEC 61508 - Low demand
Safety Integrity Level (SIL)	3 (< 15% of the overall SIL)
Designation	EN 50156-2
Safety Integrity Level (SIL)	3 (Reference IEC 61508)

Standards and Regulations

Shock	15g
Designation	Air clearances and creepage distances between the power circuits
Standards/regulations	DIN EN 50178; EN 60947-5-1
Rated insulation voltage	250 V AC
Rated surge voltage/insulation	Basic insulation 4 kV between all current paths and housing
Rated surge voltage/insulation	Safe isolation, reinforced insulation 2.5 kV between (93/94) and (31/32, 24V/GND)

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Standards and Regulations

Rated surge voltage/insulation	Safe isolation, reinforced insulation 6 kV:between (A1/A2) and (13/14) and (31/32, 24V/GND)between (A1/A2) and (93/94)between (13/14) and (93/94)
Degree of pollution	2
Overvoltage category	III
Vibration (operation)	10 Hz ... 150 Hz, 2g
Conformance	CE-compliant

Classifications

eCl@ss

eCl@ss 5.1	27371901
eCl@ss 6.0	27371819
eCl@ss 8.0	27371819
eCl@ss 9.0	27371819

ETIM

ETIM 5.0	EC001449
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Approvals

UL Listed / cUL Listed / cULus Listed / UL Listed / cUL Listed / Functional Safety / cULus Listed /

Approval details

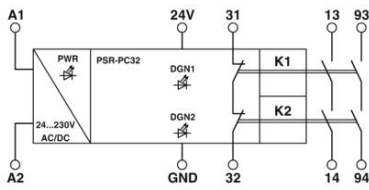
UL Listed 
cUL Listed 
cULus Listed 


Functional Safety

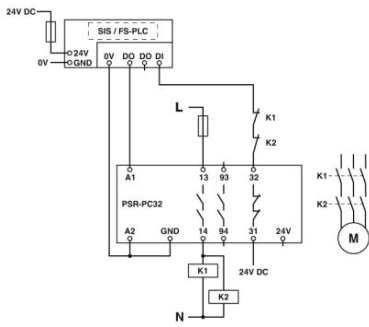

Drawings

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Block diagram



Circuit diagram



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