

## Coupling relay - PSR-PC32-2NO-1NC-24-230UC-SC - 2700581

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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 screw terminal block

### 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
- ✓ Corrosion protection due to conformal coating of the PCB



### Key Commercial Data

Packing unit	1 pc
GTIN	 4 046356 916066
GTIN	4046356916066
Weight per Piece (excluding packing)	240.000 g
Custom tariff number	85364900
Country of origin	Germany

### Technical data

#### Note

Utilization restriction	EMC: class A product, see manufacturer's declaration in the download area
	Use in potentially explosive areas is not permitted in China.

### Dimensions

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## Technical data

### Dimensions

Width	17.5 mm
Height	112.2 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)
Maximum altitude	≤ 2000 m (Above sea level)

### Power supply

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)
	34 mA (48 V DC)
	97 mA (42 V AC)
	28 mA (120 V AC)
	16 mA (230 V AC)
Power consumption at $U_s$	1.8 W (with DC)
	2.1 W (with AC)
Apparent power	typ. 4.1 VA
Inrush current	typ. 16 A ( $\Delta t < 100 \mu s$ at $U_s$ )
	< 5 mA (at terminal blocks 24V/GND at $U_D$ )
Filter time	10 ms (24 V DC, A1 in the event of voltage dips at $U_s$ )
	max. 1.5 ms (at A1-A2; test pulse width; at 24 V DC)
	7.5 ms (at A1-A2; test pulse rate; at 24 V DC)
	Test pulse rate = 5 x Test pulse width
Diagnostic supply voltage $U_D$	24 V DC -15 % / +10 %
Input current at $U_D$	< 5 mA (at terminal blocks 24V/GND at $U_D$ )
Protective circuit	$U_s$ : surge protection Varistor 275 V
	$U_D$ : surge protection 33 V suppressor diode
	$U_D$ : Polarity protection

### Relay outputs: enabling current path

Output name	Enabling current path
Output description	safety-related N/O contacts
Number of outputs	2 (undelayed)
Contact type	2 enabling current paths

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#### Relay outputs: enabling current path

Contact material	AgSnO <sub>2</sub>
Switching voltage	min. 12 V AC/DC
	max. 250 V AC/DC (13/14, observe the load curve)
	max. 60 V AC/DC (93/94, observe the load curve)
Limiting continuous current	6 A (observe derating)
Inrush current	min. 3 mA
	max. 6 A
Sq. Total current	72 A <sup>2</sup> (observe derating)
Switching capacity	min. 60 mW
Switching frequency	max. 1 Hz
Mechanical service life	10x 10 <sup>6</sup> cycles
Switching capacity (360/h cycles)	4 A (24 V (DC13))
	5 A (230 V (AC 15))
Output fuse	6 A gL/gG
	4 A gL/gG (for low-demand applications)

#### Relay outputs: return current/signaling current path

Output name	Confirmation current path
Output description	Safety-related N/C contacts
Number of outputs	1 (undelayed)
Contact type	1 confirmation current path
Contact material	AgCuNi, + Au
Switching voltage	min. 3.3 V AC/DC
	max. 26.4 V DC
Limiting continuous current	100 mA
Inrush current	min. 1 mA
	max. 100 mA
Switching capacity	min. 3.3 mW
Output fuse	150 mA fast blow

#### Times

Typical response time at US	< 100 ms (with U <sub>s</sub> when controlled via A1)
Typical release time at US	< 200 ms (with U <sub>s</sub> when controlled via A1)
Recovery time	< 500 ms

#### General

Relay type	Electromechanical relay with force-guided contacts in accordance with IEC/EN 61810-3
Nominal operating mode	100% operating factor

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## Technical data

### General

Net weight	157.28 g
Mounting position	vertical or horizontal
Mounting type	DIN rail mounting
Assembly instructions	See derating curve
Degree of protection	IP20
Min. degree of protection of inst. location	IP54
Housing material	PBT
Housing color	yellow
Operating voltage display	1 x yellow LED
Status display	1 x green LED, 1 x yellow LED

### Connection data

Connection method	Screw connection
pluggable	Yes
Conductor cross section solid	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross section flexible	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross-section AWG	24 ... 12
Stripping length	7 mm
Screw thread	M3

### Safety-related characteristic data

Stop category in accordance with IEC 60204	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

Designation	Air clearances and creepage distances between the power circuits
Standards/regulations	DIN EN 50178, EN 60079-15
Rated insulation voltage	250 V AC
Rated surge voltage/insulation	Basic insulation 4 kV between all current paths and housing
	Safe isolation, reinforced insulation 2.5 kV between (93/94) and (31/32, 24V/GND)
	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)



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## Classifications

### eCl@ss

eCl@ss 4.1	40020600
eCl@ss 5.0	27371900
eCl@ss 5.1	27371900
eCl@ss 6.0	27371800
eCl@ss 7.0	27371819
eCl@ss 9.0	27371819

### ETIM

ETIM 6.0	EC001449
ETIM 7.0	EC001449

## Approvals

### Approvals


#### Approvals


UL Listed / cUL Listed / Functional Safety / cULus Listed

#### Ex Approvals

UL Listed / cUL Listed / IECEx / ATEX / cULus Listed

### Approval details

UL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 140324
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cUL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 140324
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Functional Safety		44-780-15124308
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### Approvals

cULus Listed

