Safety relays - PSR-SCP- 24DC/FSP/2X1/1X2 - 2986960

Safe coupling relay for SIL3 high and low demand applications, connects digital output signals to the I/O, 2 enabling current paths, 2 signal contacts, module for safe state off applications, integrated test pulse filter, plug-in screw connection, width: 17.5 mm

Product Features

- Narrow 17.5 mm housing
- Up to SIL 3 according to IEC 61508
- Forcibly guided contacts according to EN 50205
- Easy proof test according to IEC 61508 thanks to integrated signal contact
- Long service life thanks to filtering of controller test pulses
- Two enabling current paths
- Couples digital output signals from failsafe controllers to I/O devices (valves, etc.) for electrical isolation and power adaptation

Key commercial data

package_quantity	1
GTIN	4046356520911

Technical data

Note:

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

Dimensions

Width	17.5 mm
Height	99 mm
Depth	114.5 mm

Ambient conditions

Ambient temperature (operation)	-20 °C ... 55 °C
Ambient temperature (storage/transport)	-40 °C ... 70 °C
Max. permissible humidity (storage/transport)	≤ 75 % (Condensation and icing are not permitted based on the average annual temperature)
Max. permissible humidity (storage/transport)	≤ 85 % (On an individual basis, condensation and icing are not permitted)

Input data

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Technical data

Input data

Nominal input voltage U_N	24 V DC
Input voltage range in reference to U_N	0.85 ... 1.1
Typical input current at U_N	55 mA
Typical inrush current	max. 100 mA
Typical response time	50 ms
Typical release time	50 ms
Recovery time	1 s

Output data

Contact type	2 undelayed enabling current paths
Contact type	1 undelayed confirmation current path
Contact material	AgCuNi, + 0.2 µm Au
Maximum switching voltage	250 V AC/DC
Minimum switching voltage	15 V AC/DC
Limiting continuous current	5 A (N/O contact)
Limiting continuous current	100 mA (N/C contact)
Maximum inrush current	5 A
Inrush current, minimum	5 mA
Sq. Total current	50 A^2 ($I_{TH}^2 = I_1^2 + I_2^2 + ... + I_N^2$)
Interrupting rating (ohmic load) max.	120 W (24 V DC, τ = 0 ms, N/C contact: 2.4 W)
Interrupting rating (ohmic load) max.	192 W (48 V DC, τ = 0 ms, N/C contact: 4.8 W)
Interrupting rating (ohmic load) max.	162 W (60 V DC, τ = 0 ms, N/C contact: 6 W)
Interrupting rating (ohmic load) max.	66 W (110 V DC, τ = 0 ms, N/C contact: 11 W)
Interrupting rating (ohmic load) max.	60 W (220 V DC, τ = 0 ms, N/C contact: 22 W)
Interrupting rating (ohmic load) max.	1250 VA (250 V AC, τ = 0 ms, N/C contact: 25 VA)
Maximum interrupting rating (inductive load)	72 W (24 V DC, τ = 40 ms, N/C contact: 2.4 W)
Maximum interrupting rating (inductive load)	43 W (48 V DC, τ = 40 ms, N/C contact: 4.8 W)
Maximum interrupting rating (inductive load)	41 W (60 V DC, τ = 40 ms, N/C contact: 6 W)
Maximum interrupting rating (inductive load)	35 W (110 V DC, τ = 40 ms, N/C contact: 11 W)
Maximum interrupting rating (inductive load)	48 W (220 V DC, τ = 40 ms, N/C contact: 22 W)
Switching capacity min.	75 mW
Output fuse	10 A gL/gG (N/O contact)
Output fuse	6 A gL/gG (N/C contact)

General

Relay type	Electromechanically forcibly guided, dust-proof relay.
Mechanical service life	Approx. 10^7 cycles
Mounting position	Any
Category according to EN 13849-1	4
Stop category	0
Name	Air and creepage distances between the power circuits
Standards/regulations	DIN EN 50178/VDE 0160

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Technical data

General

Rated surge voltage / insulation	6 kV / Safe isolation, increased insulation
Rated insulation voltage	250 V
Pollution degree	2
Surge voltage category	III

Connection data

Conductor cross section solid min.	0.2 mm²
Conductor cross section solid max.	2.5 mm²
Conductor cross section stranded min.	0.2 mm²
Conductor cross section stranded max.	2.5 mm²
Conductor cross section AWG/kcmil min.	24
Conductor cross section AWG/kcmil max	12
Stripping length	7 mm
Screw thread	M3
Connection method	Screw connection

classifications

eCl@ss

eCl@ss 4.0	27371102
eCl@ss 4.1	27371102
eCl@ss 5.0	27371901
eCl@ss 5.1	27371901
eCl@ss 6.0	27371819
eCl@ss 7.0	27371819
eCl@ss 8.0	27371819

ETIM

ETIM 2.0	EC001449
ETIM 3.0	EC001449
ETIM 4.0	EC001449
ETIM 5.0	EC001449

UNSPSC

UNSPSC 6.01	30211901
UNSPSC 7.0901	39121501
UNSPSC 11	39121501
UNSPSC 12.01	39121501
UNSPSC 13.2	39121501

approvals

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approvals

Approval details

UL Listed

cUL Listed

Functional Safety

cULus Listed

Drawings

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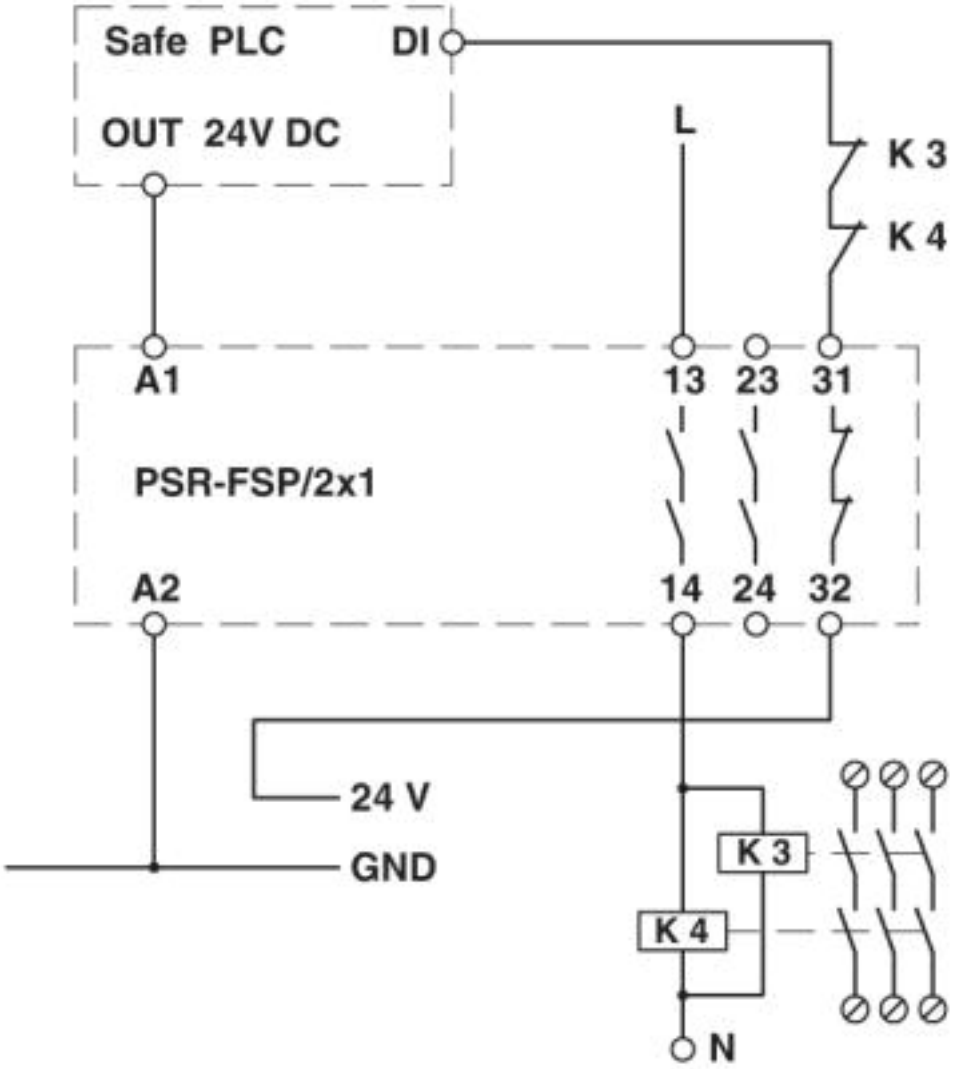
Connection diagram



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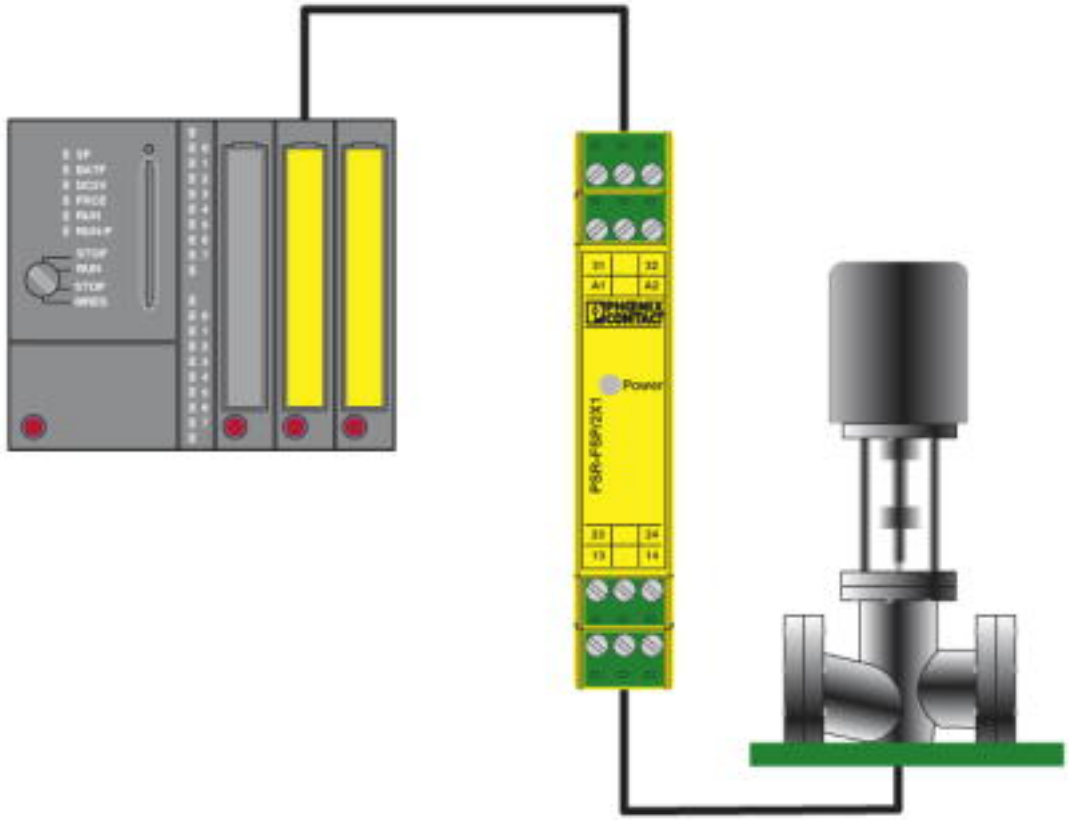
Application drawing



Example of electrical isolation of a safety PLC output from the field.

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Circuit diagram