

Safety relays - PSR-SCP- 24DC/SDC4/2X1/B - 2981486

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Safety relay for emergency stop, safety door, and magnetic switches, as well as light grid, up to SIL 3 or Cat. 4, PL e according to EN ISO 13849, 2 N/O contacts, TBUS interface, automatic or manual activation, plug-in screw connection terminal blocks

Why buy this product

- Up to Cat. 4/PL e according to ISO 13849-1, SILCL 3 according to IEC 62061, SIL 3 according to IEC 61508
- Single and two-channel control
- 2 enabling current paths, 1 signaling current path
- For emergency stop and safety door monitoring, plus evaluation of light grids
- Modular system with TBUS extension



Key Commercial Data

Packing unit	1 STK
GTIN	 4 046356 051682

Technical data

Note

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

Width	22.5 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 relative humidity (operation)	75 % (on average, 85% infrequently, non-condensing)

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Ambient conditions

Max. permissible humidity (storage/transport)	75 % (on average, 85% infrequently, non-condensing)
Maximum altitude	≤ 2000 m (Above sea level)

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	70 mA
Voltage at input/start and feedback circuit	approx. 24 V DC
Typical response time	20 ms (manual start) 150 ms (automatic start)
Typical release time	10 ms
Recovery time	1 s
Max. permissible overall conductor resistance	50 Ω (Input and start circuits at U_N)

Output data

Contact type	2 enabling current paths 1 semiconductor signaling output
Contact material	AgSnO ₂
Minimum switching voltage	15 V AC/DC
Maximum switching voltage	250 V AC/DC
Limiting continuous current	6 A (N/O contact) 100 mA (signal output)
Inrush current, minimum	25 mA
Maximum inrush current	6 A
Sq. Total current	$72 \text{ A}^2 (I_{TH}^2 = I_1^2 + I_2^2)$
Interrupting rating (ohmic load) max.	144 W (24 V DC, $\tau = 0 \text{ ms}$) 288 W (48 V DC, $\tau = 0 \text{ ms}$) 77 W (110 V DC, $\tau = 0 \text{ ms}$) 88 W (220 V DC, $\tau = 0 \text{ ms}$) 1500 VA (250 V AC, $\tau = 0 \text{ ms}$)
Maximum interrupting rating (inductive load)	48 W (24 V DC, $\tau = 40 \text{ ms}$) 40 W (48 V DC, $\tau = 40 \text{ ms}$) 35 W (110 V DC, $\tau = 40 \text{ ms}$) 33 W (220 V DC, $\tau = 40 \text{ ms}$)
Switching capacity min.	0.4 W
Output fuse	10 A gL/gG NEOZED (N/O contact) Miniature circuit breaker C6 (24 V / 20 A power supply unit)

General

Relay type	Electromechanical relay with forcibly guided contacts in accordance with EN 50205
Mechanical service life	Approx. 10^7 cycles

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Technical data

General

Net weight	196.9 g
Mounting type	DIN rail mounting
Degree of protection	IP54
	IP20
Min. degree of protection of inst. location	IP54
Mounting position	any
Control	one and two channel

Connection data

Connection method	Screw connection
pluggable	Yes
Conductor cross section solid min.	0.2 mm ²
Conductor cross section solid max.	2.5 mm ²
Conductor cross section flexible min.	0.2 mm ²
Conductor cross section flexible max.	2.5 mm ²
Conductor cross section AWG min.	24
Conductor cross section AWG max.	12
Stripping length	7 mm
Screw thread	M3

Safety-related characteristic data

Stop category	0
Designation	IEC 61508 - High demand
Safety Integrity Level (SIL)	3
Designation	IEC 61508 - Low demand
Safety Integrity Level (SIL)	3
Designation	EN ISO 13849
Performance level (PL)	e
Category	4 (Undelayed contacts)
Designation	EN 62061
Safety Integrity Level Claim Limit (SIL CL)	3

Standards and Regulations

Designation	Air clearances and creepage distances between the power circuits
Standards/regulations	DIN EN 50178/VDE 0160
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.)
Degree of pollution	2
Overvoltage category	III

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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

Approvals

Approvals

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

Ex Approvals

Approvals submitted

Approval details

UL Listed



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Approvals

cUL Listed 

Functional Safety

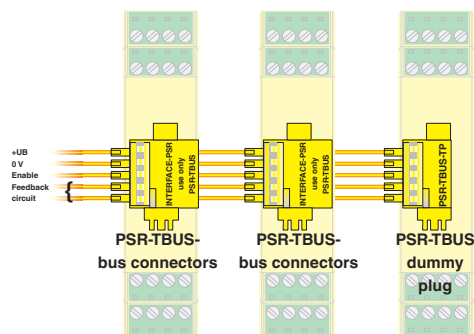
EAC

Functional Safety

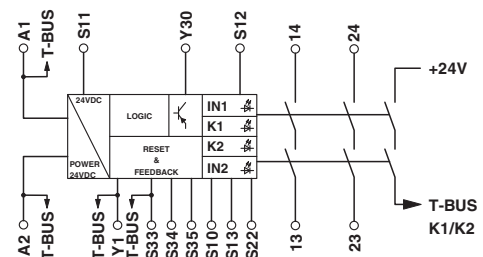
cULus Listed 

Drawings

Connection diagram



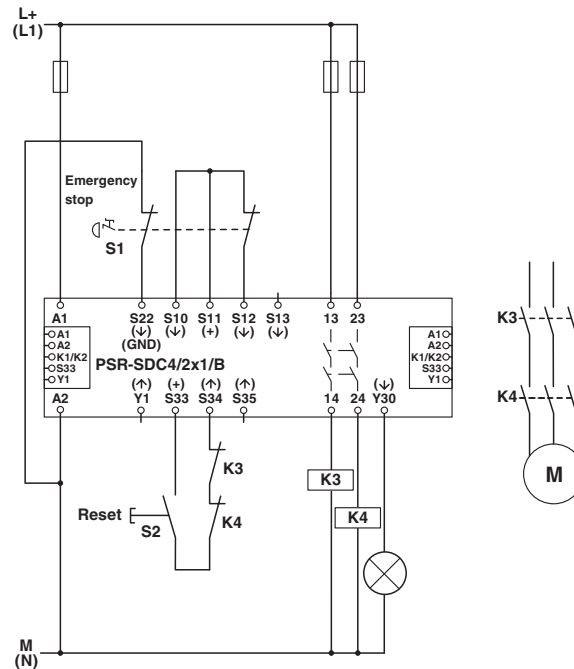
Circuit diagram



PSR-TBUS DIN rail connectors are used for cross-wiring between the modules.

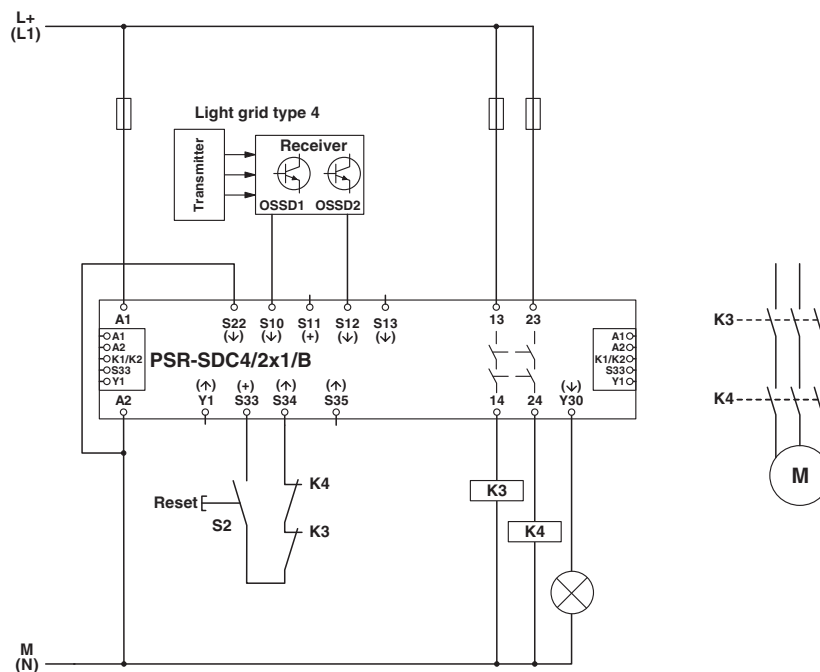
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Circuit diagram



Two-channel emergency stop monitoring

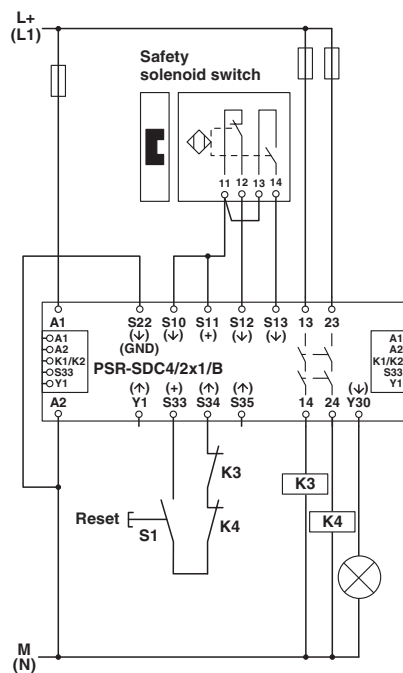
Circuit diagram



Light grid monitoring

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Circuit diagram



Two-channel magnetic switch monitoring

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