Safety relays - PSR-SCP- 24DC/ESD/4X1/30 - 2981800

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Safety relay for emergency stop and safety door monitoring up to SIL 3 or Cat. 4, PL e according to EN ISO 13849, automatic or manual activation, 2 N/O contacts with dropout delay of 0.1 s to 30 s, plug-in screw connection terminal block

Your advantages

- Maximum of 3 undelayed and 2 dropout delay contacts
- Manually monitored and automatic activation
- Up to Cat. 3/4 and PL d/e according to EN ISO 13849-1, SIL 3 according to IEC 62061, SIL 3 according to IEC 61508
- For emergency stop and safety door monitoring, plus evaluation of light grids
- 1- and 2-channel control
- Protective labels to prevent manipulation of the set time (PSR-ESD-300) or electronic protection against manipulation (PSR-ESD-30)
- Fixed delay times of 0.1 s ... 300 s

Key Commercial Data

Packing unit	1 pc
GTIN	4 046356 117968
GTIN	4046356117968
Weight per Piece (excluding packing)	240.000 g
Custom tariff number	85371098
Country of origin	Germany

Technical data

Note

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

Dimensions

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Technical data

Dimensions

Width	22.5 mm
Height	99 mm
Depth	114.5 mm

Ambient conditions

Ambient temperature (operation)	-20 °C ... 45 °C
Ambient temperature (storage/transport)	-40 °C ... 70 °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)

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	75 mA DC
Voltage at input/start and feedback circuit	approx. 24 V DC
Typical response time	150 ms (Monitored/manual and auto-start)
Typical release time	20 ms (Undelayed contacts)
	100 ms (delayed contacts)
Typical release time range	0.1 s ... 30 s
Recovery time	330 ms (Restart)
	1 s (Electric torque)
Operating voltage display	Green LED
Status display	LED K1/K2 and K3(t)/K4(t), green
Protective circuit	Suppressor diode, 33 V DC
Max. permissible overall conductor resistance	500 Ω (Input and reset circuit at U_N)

Output data

Contact type	4 enabling current paths
Contact material	$AgSnO_2$
Maximum switching voltage	250 V AC/DC
Minimum switching voltage	15 V AC/DC
Limiting continuous current	6 A (N/O contact)
Maximum inrush current	6 A
Inrush current, minimum	25 mA
Sq. Total current	120 A^2 (see to derating)
Interrupting rating (ohmic load) max.	144 W (24 V DC, τ = 0 ms)
	288 W (48 V DC, τ = 0 ms)

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Output data

	90 W (110 V DC, τ = 0 ms)
	88 W (220 V DC, τ = 0 ms)
	1500 VA (250 V AC, τ = 0 ms)
Maximum interrupting rating (inductive load)	42 W (24 V DC, τ = 40 ms)
	33 W (48 V DC, τ = 40 ms)
	25 W (110 V DC, τ = 40 ms)
	23 W (220 V DC, τ = 40 ms)
Switching capacity min.	0.4 W
Mechanical service life	approx. 10^7 cycles
Switching capacity (360/h cycles)	on request
Output fuse	10 A gL/gG NEOZED (N/O contact)

General

Relay type	Electromechanical relay with force-guided contacts in accordance with IEC/EN 61810-3
Nominal operating mode	100% operating factor
Net weight	198.9 g
Mounting position	any
Mounting type	DIN rail mounting
Degree of protection	IP20
Min. degree of protection of inst. location	IP54
Housing material	Polyamide

Connection data

Connection method	Screw connection
pluggable	Yes
Conductor cross section solid	0.2 mm² ... 2.5 mm²
Conductor cross section flexible	0.2 mm² ... 2.5 mm²
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
	1
Safety Integrity Level (SIL)	3
Designation	EN ISO 13849
Performance level (PL)	e
Category	4

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Technical data

Safety-related characteristic data

Safety Integrity Level Claim Limit (SIL CL)	3

Standards and Regulations

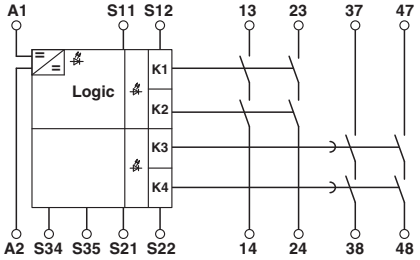
Designation	Air clearances and creepage distances between the power circuits
Standards/regulations	DIN EN 60947-1
Rated insulation voltage	250 V
Rated surge voltage/insulation	4 kV / basic insulation
Degree of pollution	2
Overvoltage category	II
Shock	15g
Vibration (operation)	10 Hz ... 150 Hz, 2g

Environmental Product Compliance

REACh SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For details about hazardous substances go to tab “Downloads”, Category “Manufacturer's declaration”

Drawings

Circuit diagram



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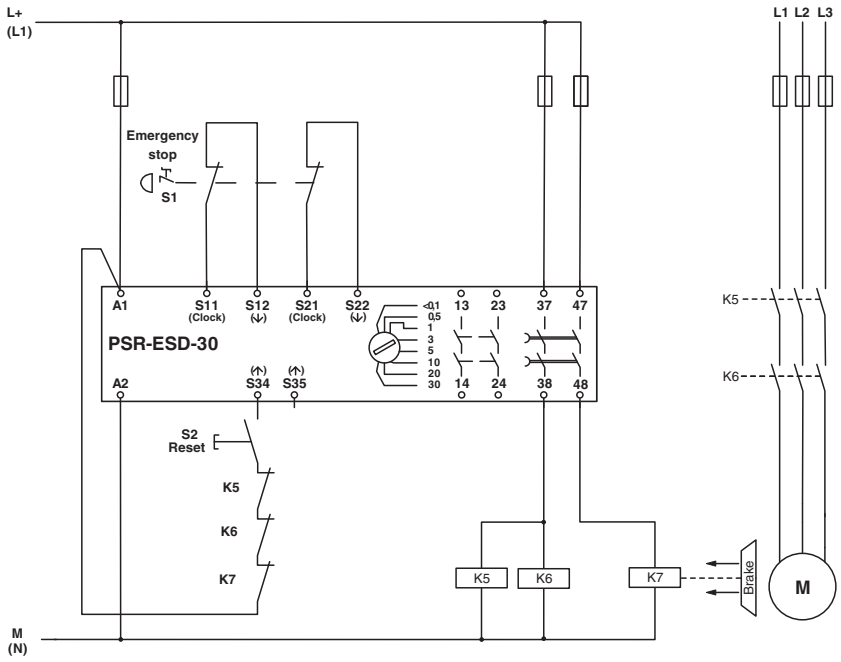
Circuit diagram



Two-channel emergency stop monitoring

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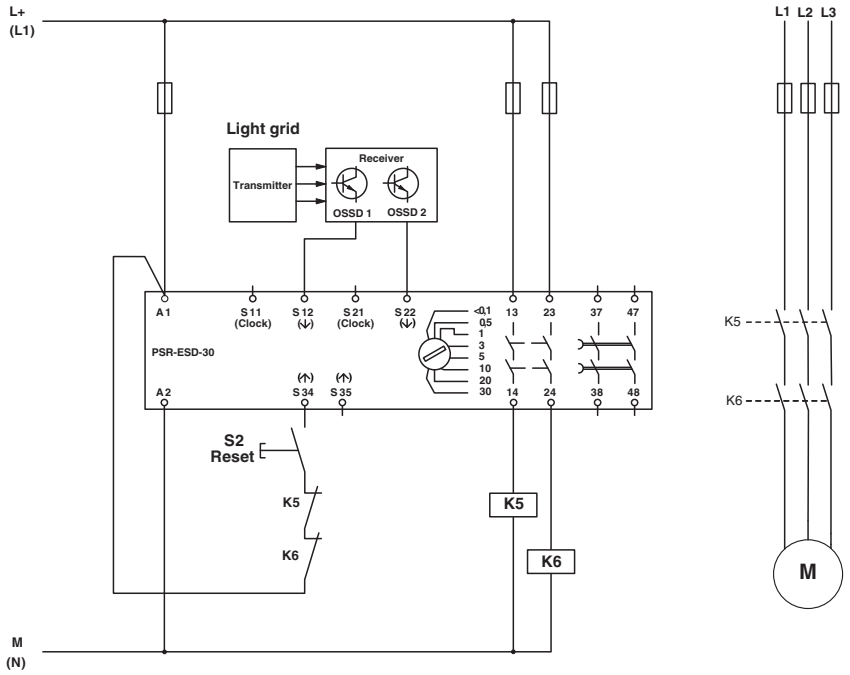
Circuit diagram



Light grid monitoring

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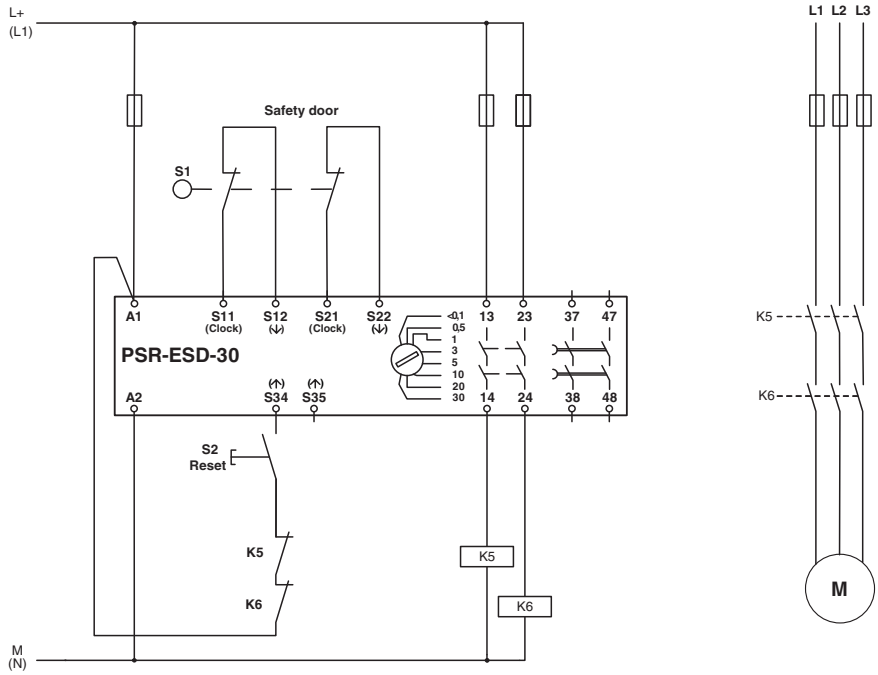
Circuit diagram



Two-channel safety door monitoring

Classifications

eCl@ss

eCl@ss 10.0.1	27371819
eCl@ss 11.0	27371819
eCl@ss 4.0	40020600
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 2.0	EC001449
ETIM 3.0	EC001449
ETIM 4.0	EC001449
ETIM 6.0	EC001449
ETIM 7.0	EC001449

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Classifications

UNSPSC

UNSPSC 6.01	30211901
UNSPSC 7.0901	39121501
UNSPSC 11	39121501
UNSPSC 12.01	39121501
UNSPSC 13.2	39121501
UNSPSC 18.0	39122205
UNSPSC 19.0	39122205
UNSPSC 20.0	39122205
UNSPSC 21.0	39122205

Approvals

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

Ex Approvals

Approval details

UL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 140324
cUL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 140324
Functional Safety			01/205/0656.02/20
EAC			EAC-Zulassung

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Approvals

EAC		RU C-DE.A*30.B.01082

cULus Listed	