

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

Why buy this product

- 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 ISO 13849-1, SILCL 3 according to IEC 62061, SIL 3 according to IEC 61508
- For emergency stop and safety door monitoring, plus evaluation of light grids
- Protective labels to prevent manipulation of the set time (PSR-ESD-300) or electronic protection against manipulation (PSR-ESD-30)
- Single and two-channel control
- Fixed delay times of 0.1 s ... 300 s



Key Commercial Data

Packing unit	1 STK
GTIN	4 046356 117968

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 ... 45 °C
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Ambient conditions

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)
Status display	LED K1/K2 and K3(t)/K4(t), green
Max. permissible overall conductor resistance	500 Ω (Input and reset circuit at U_N)

Output data

Contact type	2 undelayed enabling current paths
	2 enabling current paths delayed
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)
Inrush current, minimum	25 mA
Maximum inrush current	6 A
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)
	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
Output fuse	10 A gL/gG NEOZED (N/O contact)

General

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Technical data

General

Relay type	Electromechanical relay with forcibly guided contacts in accordance with EN 50205
Mechanical service life	Approx. 10 ⁷ cycles
Net weight	198.9 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
	1
Safety Integrity Level (SIL)	3
Designation	EN ISO 13849
Performance level (PL)	e
Category	4
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

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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 / EAC / cULus Listed

Ex Approvals

Approvals submitted

Approval details

UL Listed 

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Approvals

cUL Listed

Functional Safety

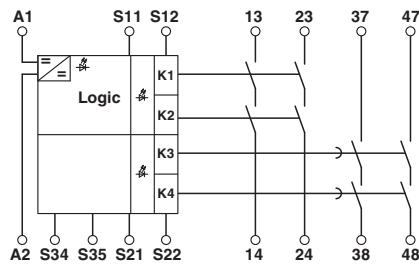
EAC

EAC

cULus Listed

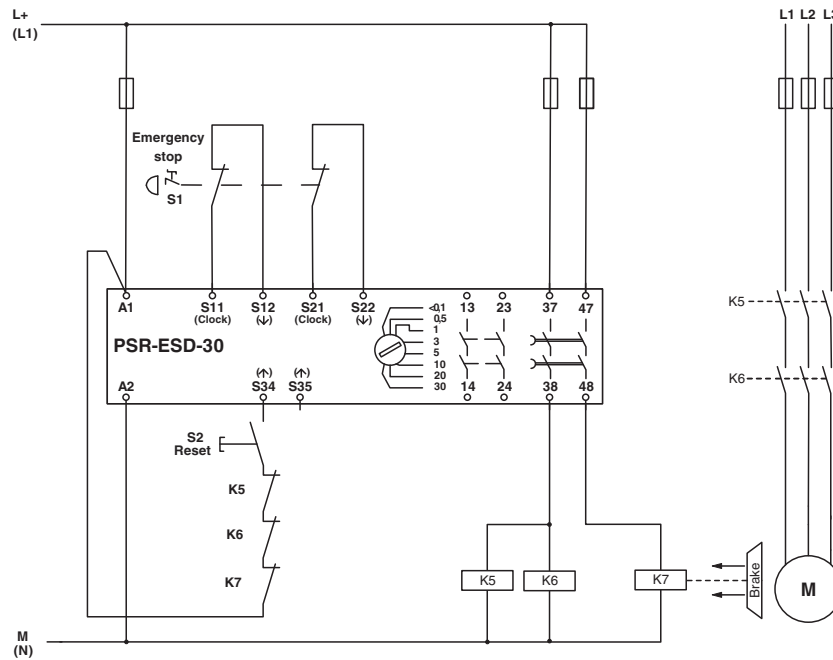
Drawings

Circuit diagram



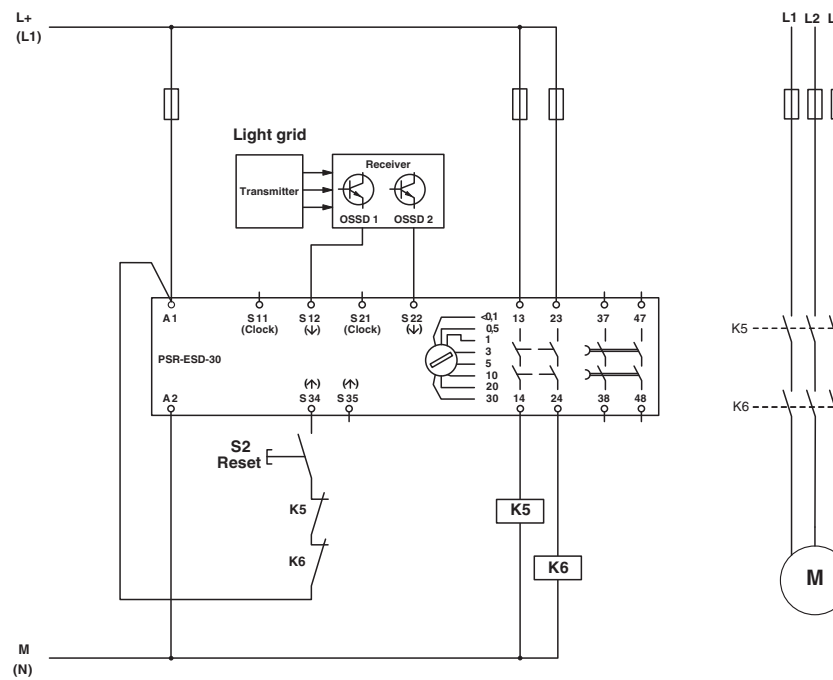
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Circuit diagram



Two-channel emergency stop monitoring

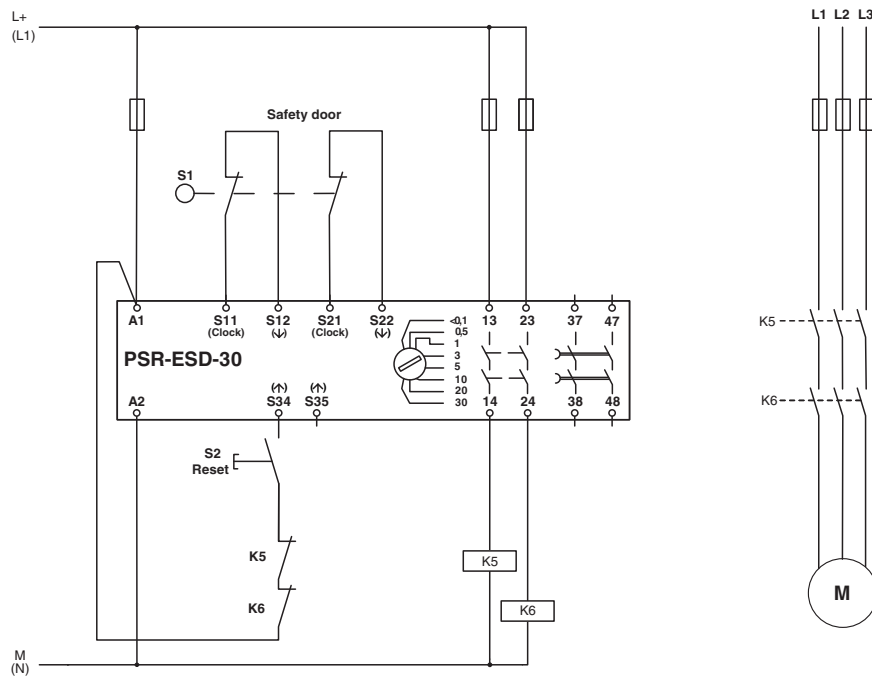
Circuit diagram



Light grid monitoring

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Circuit diagram



Two-channel safety door monitoring

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