

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 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
- ✓ Single and two-channel control
- ✓ Fixed delay times of 0.1 s ... 300 s
- ✓ Protective labels to prevent manipulation of the set time (PSR-ESD-300) or electronic protection against manipulation (PSR-ESD-30)



Key Commercial Data

Packing unit	1 pc
GTIN	 4 046356 117968
GTIN	4046356117968

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)
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, $\tau = 0$ ms)
	288 W (48 V DC, $\tau = 0$ ms)
	90 W (110 V DC, $\tau = 0$ ms)
	88 W (220 V DC, $\tau = 0$ ms)
	1500 VA (250 V AC, $\tau = 0$ ms)
Maximum interrupting rating (inductive load)	42 W (24 V DC, $\tau = 40$ ms)
	33 W (48 V DC, $\tau = 40$ ms)
	25 W (110 V DC, $\tau = 40$ ms)
	23 W (220 V DC, $\tau = 40$ ms)
Switching capacity min.	0.4 W
Mechanical service life	approx. 10 ⁷ cycles

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Output data

Switching capacity (360/h cycles)	on request
Output fuse	10 A gL/gG NEOZED (N/O contact)

General

Relay type	Electromechanical relay with forcibly guided contacts in accordance with EN 50205
Nominal operating mode	100% operating factor
Net weight	198.9 g
Mounting position	any
Mounting type	DIN rail mounting
Degree of protection	IP20
	IP54
Min. degree of protection of inst. location	IP54

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
Shock	15g

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Standards and Regulations

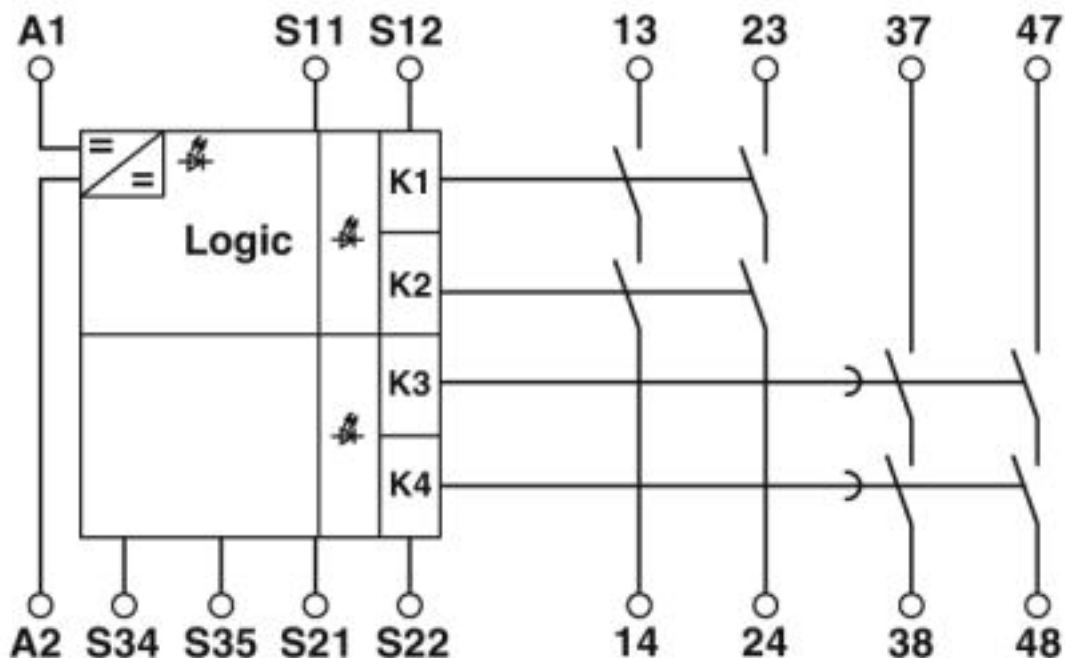
Vibration (operation)	10 Hz ... 150 Hz, 2g
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Environmental Product Compliance

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

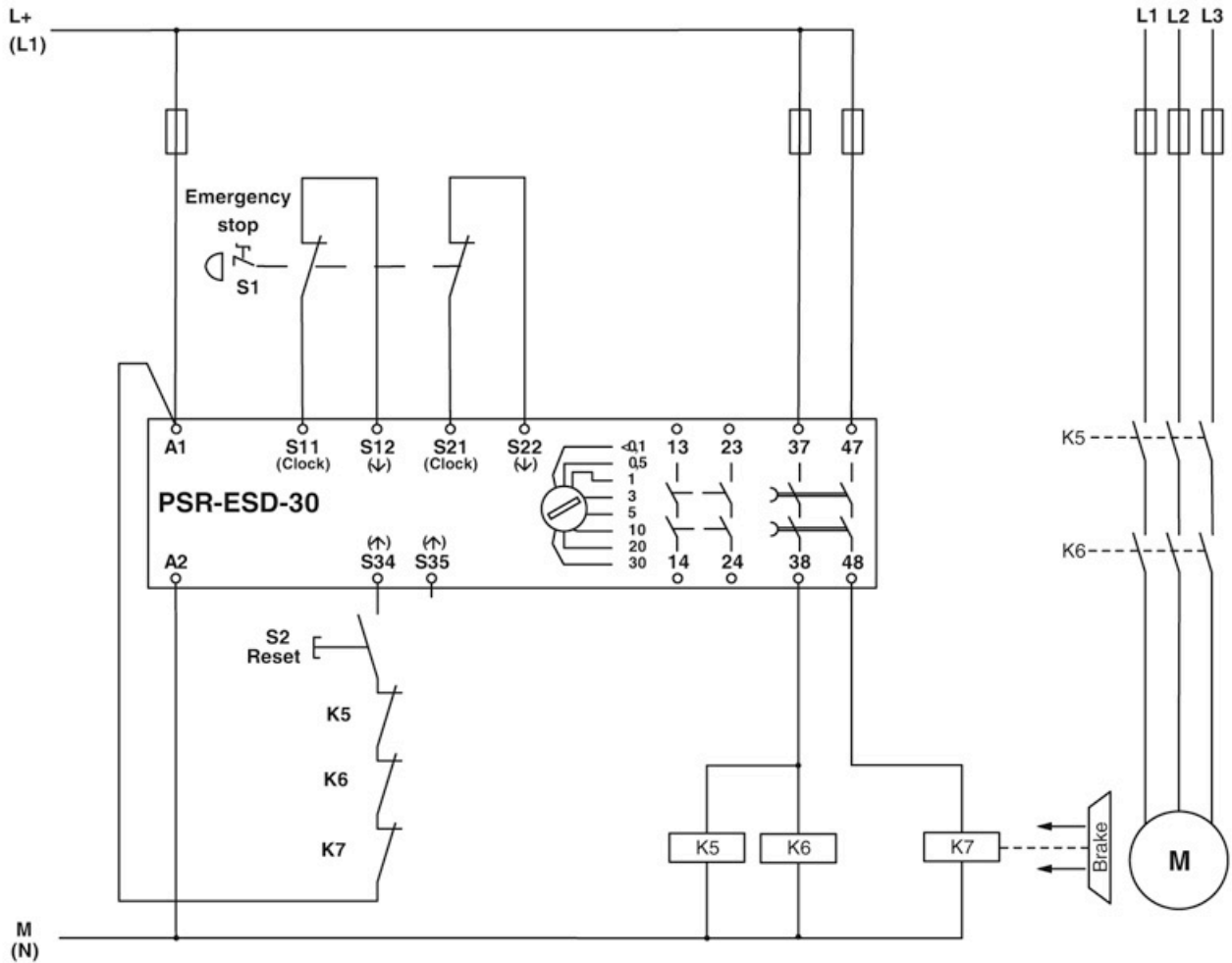
Drawings

Circuit diagram



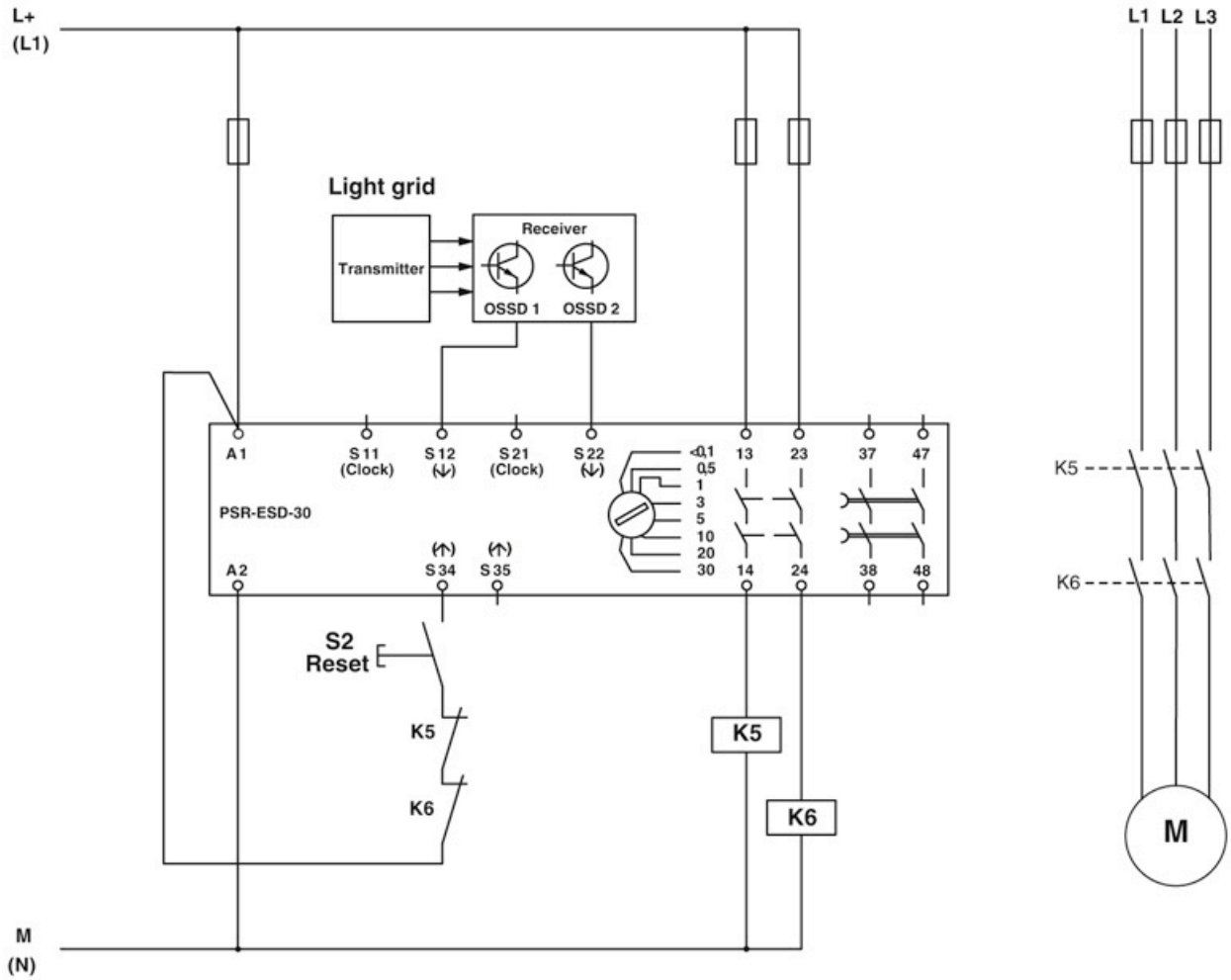
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Circuit diagram



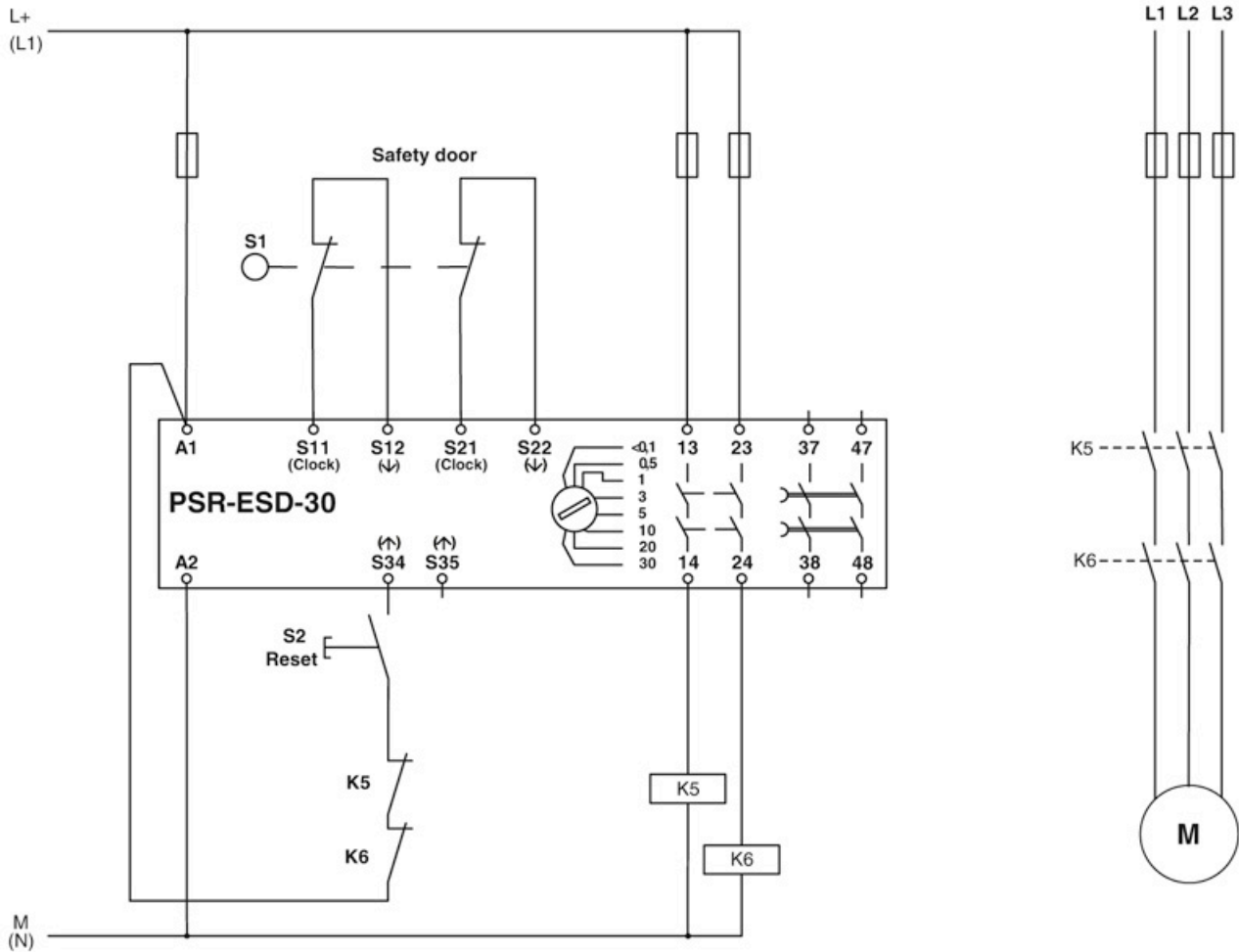
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Circuit diagram



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Circuit diagram



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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			01/205/0656.01/15
EAC			EAC-Zulassung
EAC			RU C- DE.A*30.B.01082
cULus Listed			

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