PSR-SPP- 24DC/ESD/4X1/30 - Safety relays

2981813

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Safety relay for emergency stop and safety door monitoring up to SIL 3 or Cat. 4, PL e in accordance with EN ISO 13849, automatic or manual activation, 2 N/O contacts with a fixed dropout delay of 0.1 s ... 30 s, pluggable Push-in 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 in accordance with EN ISO 13849-1, SIL 3 in accordance with EN IEC 62061, SIL 3 in accordance with 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

ELEKTROGERÄTE RÜCKNAHME

Commercial data

Item number	2981813
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DN01
Product key	DNA131
GTIN	4046356117265
Weight per piece (including packing)	191.5 g
Weight per piece (excluding packing)	192.3 g
Customs tariff number	85371098
Country of origin	DE

Technical data

Product properties

Product type	Safety relays
Product family	PSRclassic
Application	Emergency stop
	Safety door
	Light grid
Control	1 and 2 channel
Mechanical service life	approx. 10^7 cycles
Relay type	Electromechanical relay with force-guided contacts in accordance with IEC/EN 61810-3

Insulation characteristics

Overvoltage category	II, III (See the section “Insulation coordination”)
Degree of pollution	2

Times

Typical response time	150 ms (Monitored/manual and auto-start)
Typical release time	20 ms (Undelayed contacts)
	100 ms (delayed contacts)
Delay time range	0.1 s ... 30 s ±30 % (adjustable)
Recovery time	330 ms (Restart)
	1 s (Electric torque)

Electrical properties

Maximum power dissipation for nominal condition	25.8 W (U_S = 26,4 V, I_L^2 = 120 A²)
Nominal operating mode	100% operating factor
Rated insulation voltage	250 V
Rated surge voltage/insulation	4 kV / basic insulation

Supply

Rated control circuit supply voltage U_S	24 V DC -15 %; +10 %
Rated control supply current I_S	typ. 75 mA
Inrush current	typ. 250 mA
Protective circuit	Suppressor diode

Input data

General

Protective circuit	Suppressor diode, 33 V DC

Digital

Max. permissible overall conductor resistance	500 Ω (Input and reset circuit at U_N)
Protective circuit	Suppressor diode
Current consumption	typ. 3 mA

Digital: Start circuit (S34, S35)

Max. permissible overall conductor resistance	500 Ω (Input and reset circuit at U_N)
Protective circuit	Suppressor diode
Current consumption	typ. 7 mA

Output data

Relay: Enabling current paths (13/14, 23/24, 37/38, 47/48)

Number of outputs	2 (undelayed: 13/14, 23/24)
	2 (delayed: 37/38, 47/48)
Contact switching type	4 enabling current paths
Contact material	$AgSnO_2$
Switching voltage	max. 250 V AC/DC
	min. 15 V AC/DC
Switching power	min. 0.4 W
Inrush current	min. 25 mA
	max. 6 A
Switching capacity	3 A (24 V (DC13))
	3 A (250 V (AC15))
Limiting continuous current	6 A
Sq. Total current	120 A^2 (observe 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)
Output fuse	10 A gL/gG NEOZED (N/O contact)

Connection data

Connection technology

pluggable	yes

Conductor connection

Connection method	Push-in connection
Conductor cross-section rigid	0.2 mm² ... 1.5 mm²
Conductor cross-section flexible	0.2 mm² ... 1.5 mm²
Conductor cross-section, flexible, with ferrule, with plastic sleeve	0.25 mm² ... 1.5 mm² (only together with CRIMPFOX 6)
Conductor cross-section, flexible, with ferrule, without plastic sleeve	0.25 mm² ... 1.5 mm² (only together with CRIMPFOX 6)
Conductor cross-section AWG	24 ... 16

Stripping length	8 mm

Signaling

Status display	LED (green)
Error indication	K1/K2 and K3(t)/K4(t) LED, green

Dimensions

Width	22.5 mm
Height	112 mm
Depth	114.5 mm

Material specifications

Color (Housing)	yellow (RAL 1018)
Housing material	PA

Characteristics

Safety data

Stop category (EN 60204-1)	0 (Undelayed contacts)
Stop category	1 (delayed contacts)

Safety data: EN ISO 13849

Performance level (PL)	e

Safety data: IEC 61508 - High demand

Safety Integrity Level (SIL)	3

Safety data: EN IEC 62061

Safety Integrity Level (SIL)	3

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20
Min. degree of protection of inst. location	IP54
Ambient temperature (operation)	-20 °C ... 45 °C
Ambient temperature (storage/transport)	-40 °C ... 70 °C
Maximum altitude	≤ 2000 m (Above sea level)
Max. permissible humidity (storage/transport)	75 % (on average, 85% infrequently, non-condensing)
Max. permissible relative humidity (operation)	75 % (on average, 85% infrequently, non-condensing)
Shock	15g
Vibration (operation)	10 Hz ... 150 Hz, 2g

Approvals

CE

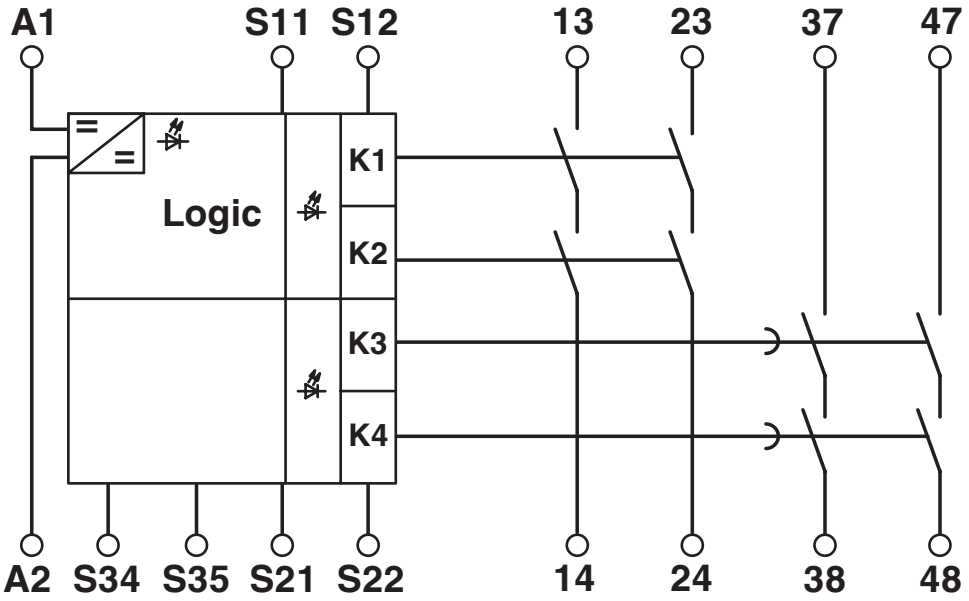
Identification	CE-compliant

Mounting

Mounting type	DIN rail mounting
Mounting position	any

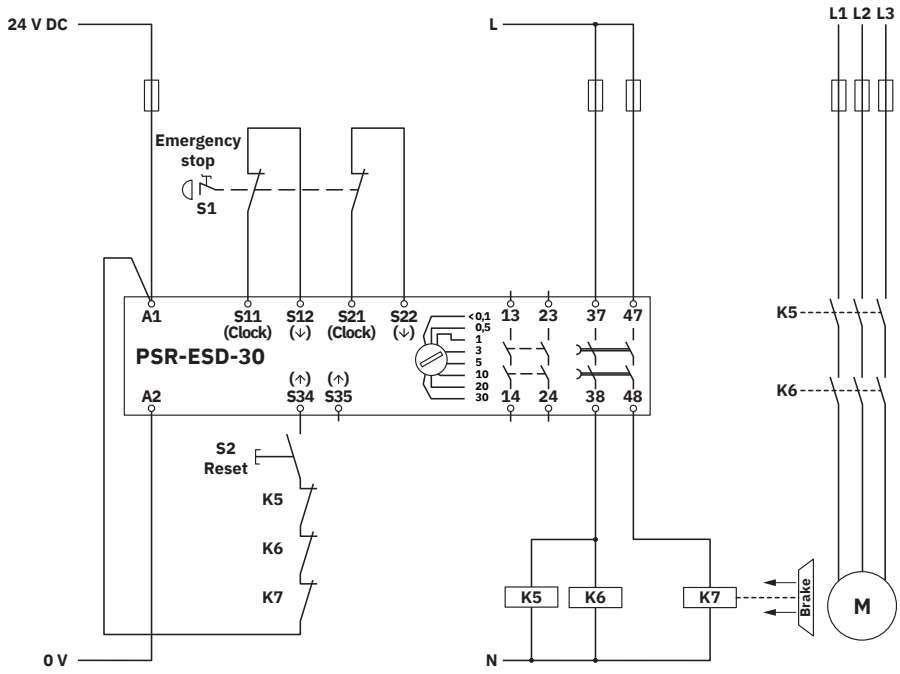
Drawings

Circuit diagram



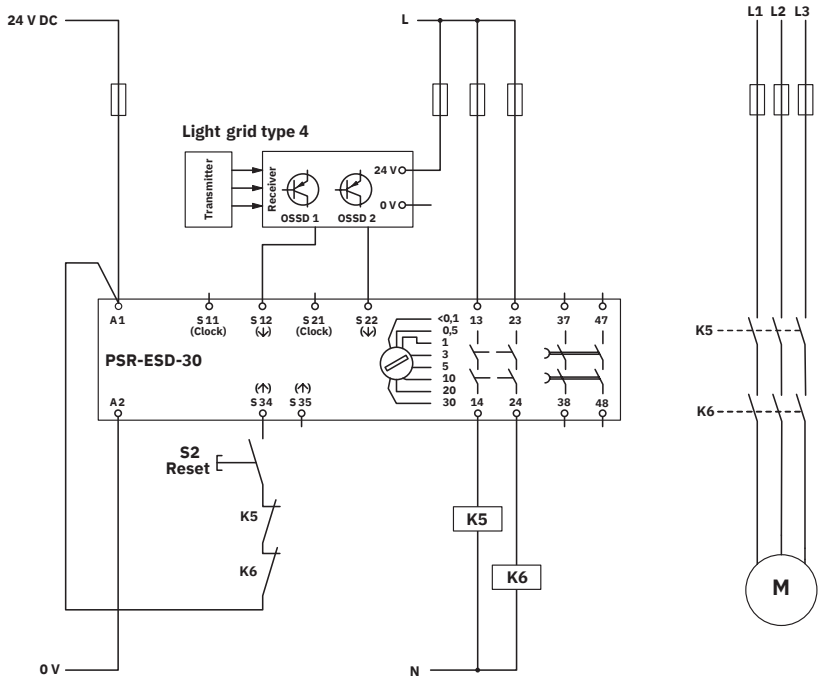
Block diagram

Circuit diagram



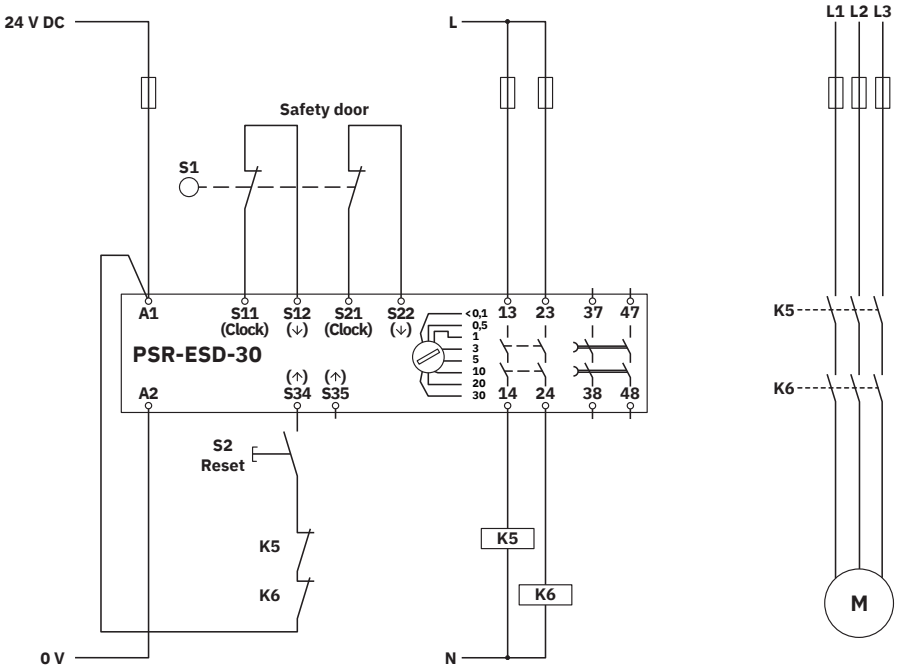
2-channel emergency stop monitoring

Circuit diagram



Light grid monitoring

Circuit diagram



Two-channel safety door monitoring

Approvals

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Functional Safety
Approval ID: 968/EZ322.06/23

cULus Listed
Approval ID: E140324

Functional Safety
Approval ID: 01/205/0656.04/23

Classifications

ECLASS

ECLASS-13.0	27371819
ECLASS-15.0	27371819

ETIM

ETIM 10.0	EC001449

UNSPSC

UNSPSC 21.0	39122200

Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	34, 7(a), 7(c)-I

China RoHS

Environment friendly use period (EFUP)	EFUP-50
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

EU REACH SVHC

REACH candidate substance (CAS No.)	1-Methyl-2-pyrrolidone (NMP)(CAS: 872-50-4)
	Lead(CAS: 7439-92-1)
SCIP	6f773305-d4ee-4c30-9f1d-e1978693fe90

EF3.1 Climate Change

CO2e kg	3.539 kg CO2e

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