

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



2981813
<https://www.phoenixcontact.com/us/products/2981813>

Please be informed that the data shown in this PDF document is generated from our online catalog. Please find the complete data in the user documentation. Our general terms of use for downloads are valid.



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

Commercial data

Item number	2981813
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DN01
Product key	DNA131
Catalog page	Page 230 (C-6-2019)
GTIN	4046356117265
Weight per piece (including packing)	229.76 g
Weight per piece (excluding packing)	209.68 g
Customs tariff number	85371098
Country of origin	DE

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



2981813

<https://www.phoenixcontact.com/us/products/2981813>

Technical data

Notes

Note on application

Note on application	Only for industrial use
---------------------	-------------------------

Product properties

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

Data management status

Article revision	12
------------------	----

Times

Typical response time	150 ms (Monitored/manual and auto-start)
Typical release time	20 ms (Undelayed contacts)
	100 ms
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	1.8 W
Nominal operating mode	100% operating factor

Air clearances and creepage distances between the power circuits

Rated insulation voltage	250 V
Rated surge voltage/insulation	4 kV / basic insulation

Supply

Rated control circuit supply voltage U_S	24 V DC
Inrush current	typ. 250 mA

Input data

General

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

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



2981813

<https://www.phoenixcontact.com/us/products/2981813>

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)
Protective circuit	Suppressor diode, 33 V DC
Max. permissible overall conductor resistance	500 Ω (Input and reset circuit at U_N)
Operating voltage display	Green LED
Status display	LED K1/K2 and K3(t)/K4(t), green

Output data

Contact switching 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
Switching capacity (360/h cycles)	on request
Switching capacity (3600/h cycles)	3 A (24 V (DC13))
	3 A (230 V (AC15))
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 mm ² ... 1.5 mm ²
Conductor cross section flexible	0.2 mm ² ... 1.5 mm ²
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm ² ... 1.5 mm ² (only together with CRIMPFOX 6)

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



2981813

<https://www.phoenixcontact.com/us/products/2981813>

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

Dimensions

Width	22.5 mm
Height	112 mm
Depth	114.5 mm

Material specifications

Housing material	Polyamide
------------------	-----------

Characteristics

Safety data

Stop category	0
	1

Safety data: EN ISO 13849

Category	4
Performance level (PL)	e

Safety data

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

Standards and regulations

Air clearances and creepage distances between the power circuits

Standards/regulations	DIN EN 60947-1
-----------------------	----------------

Mounting

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



2981813

<https://www.phoenixcontact.com/us/products/2981813>

Mounting type	DIN rail mounting
Mounting position	any

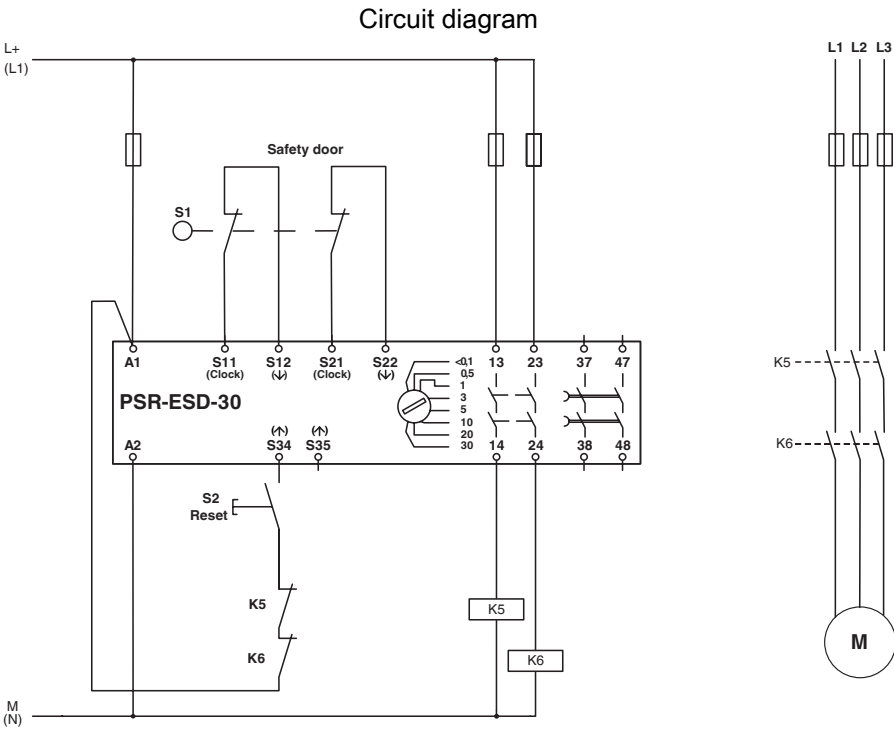
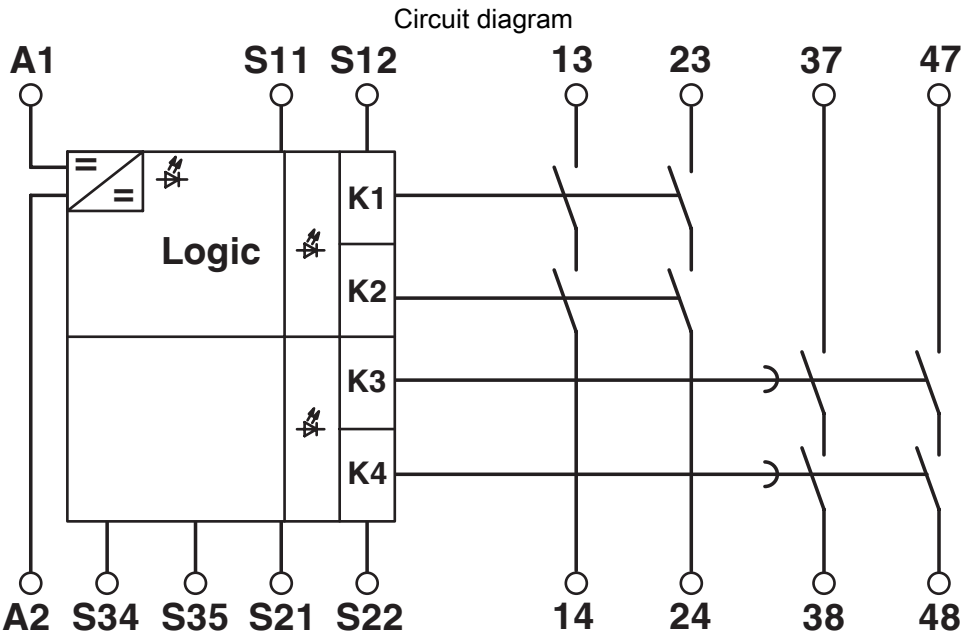
PSR-SPP- 24DC/ESD/4X1/30 - Safety relays



2981813

<https://www.phoenixcontact.com/us/products/2981813>

Drawings



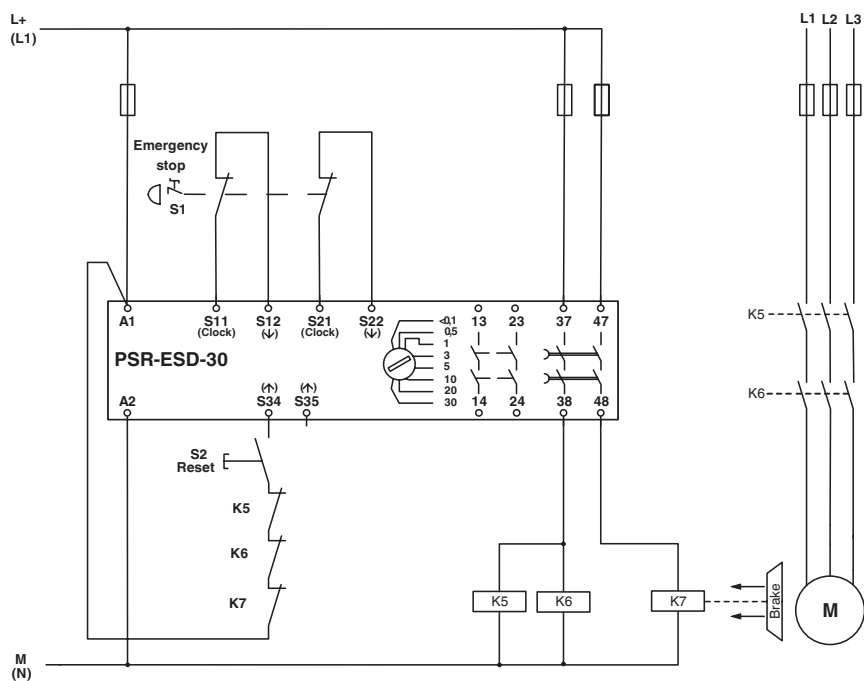
PSR-SPP- 24DC/ESD/4X1/30 - Safety relays



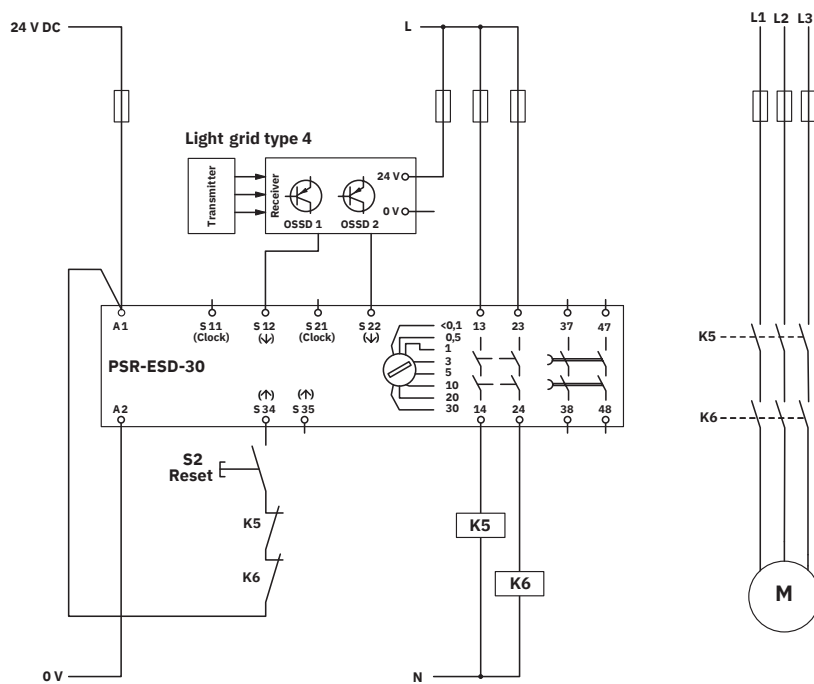
2981813

<https://www.phoenixcontact.com/us/products/2981813>

Circuit diagram



Circuit diagram



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



2981813

<https://www.phoenixcontact.com/us/products/2981813>

Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2981813>



EAC
Approval ID: TR_TS_D_00573_c



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



cULus Listed
Approval ID: E140324

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



2981813

<https://www.phoenixcontact.com/us/products/2981813>

Classifications

ECLASS

ECLASS-11.0	27371819
ECLASS-13.0	27371819
ECLASS-12.0	27371819

ETIM

ETIM 9.0	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.)	Lead(CAS: 7439-92-1)
	2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol(CAS: 79-94-7)
SCIP	6f773305-d4ee-4c30-9f1d-e1978693fe90