

PSR-SPP- 24DC/RSM4/4X1 - Safety relay module



2981541

<https://www.phoenixcontact.com/us/products/2981541>

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.



2-channel over-speed and zero-speed safety relay up to SIL 3 or Cat. 4, PL e in accordance with EN ISO 13849, 4 N/O contacts, suitable for connecting incremental encoders and initiators, width: 45 mm, plug-in Push-in terminal block

Your advantages

- Easy configuration via software (PSR-RSM4)
- Up to SIL 3 in accordance with IEC 61508
- Standard sensors can be connected

Commercial data

Item number	2981541
Packing unit	1 pc
Sales key	DN01
Product key	DNA242
Catalog page	Page 244 (C-6-2019)
GTIN	4017918996833
Weight per piece (including packing)	363.6 g
Weight per piece (excluding packing)	363.069 g
Customs tariff number	90328900
Country of origin	DE

Technical data

Product properties

Product type	Safety device
Application	Over-speed safety relay
	Zero-speed safety relay
Mechanical service life	> 50x 10 ⁶ cycles
Relay type	Electromechanical relay with force-guided contacts in accordance with IEC/EN 61810-3

Electrical properties

Maximum power dissipation for nominal condition	2.4 W
Nominal operating mode	100% operating factor
Interfaces	Encoder
	Initiator connection

Air clearances and creepage distances between the power circuits

Rated insulation voltage	250 V
Rated surge voltage/insulation	4 kV / Basic isolation, (safe isolation, reinforced insulation and 6 kV between input circuit and enabling current paths.)

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	100 mA
Voltage at input/start and feedback circuit	approx. 24 V DC
Typical response time	15 ms
Typical release time	12 ms
Recovery time	1 s
Protective circuit	Surge protection; Suppressor diode
Limit frequency	2 kHz (IN1, IN2)
	400 kHz (RJ45)
Status display	Green LED

Output data

Contact switching type	4 enabling current paths
Contact material	AgNi10, + 5 μ m Au
Maximum switching voltage	250 V AC/DC (when the gold layer is destroyed)
	60 V AC/DC (with gold layer existing)
Minimum switching voltage	100 mV AC/DC
Limiting continuous current	5 A
	100 mA (alarm outputs)
Maximum inrush current	6 A

PSR-SPP- 24DC/RSM4/4X1 - Safety relay module



2981541

<https://www.phoenixcontact.com/us/products/2981541>

Inrush current, minimum	1 mA
Sq. Total current	$42.25 \text{ A}^2 (I_{\text{TH}}^2 = I_1^2 + I_2^2 + I_3^2 + I_4^2)$
Interrupting rating (ohmic load) max.	67 W (24 V DC, $\tau = 0 \text{ ms}$)
	36 W (48 V DC, $\tau = 0 \text{ ms}$)
	43 MW (110 V DC, $\tau = 0 \text{ ms}$)
	68 MW (220 V DC, $\tau = 0 \text{ ms}$)
Switching capacity min.	1 mW
Switching capacity (3600/h cycles)	2 A (24 V (DC13))
	3 A (230 V (AC15))
Output fuse	6 A gL

Clock/signal

Number of outputs	4
-------------------	---

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)
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm ² ... 1.5 mm ² (only together with CRIMPFOX 6)
Conductor cross-section AWG	24 ... 16
Stripping length	8 mm

Dimensions

Width	45 mm
Height	112 mm
Depth	114.5 mm

Material specifications

Color	yellow
Housing material	Polyamide

Characteristics

Safety data

Stop category	0
---------------	---

Safety data: EN ISO 13849

Category	4
Performance level (PL)	e

Safety data: IEC 61508 - High demand

PSR-SPP- 24DC/RSM4/4X1 - Safety relay module



2981541

<https://www.phoenixcontact.com/us/products/2981541>

Safety Integrity Level (SIL)	3
Safety data: IEC 61508 - Low 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 ... 55 °C
Ambient temperature (storage/transport)	-40 °C ... 70 °C
Maximum altitude	max. 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)

Standards and regulations

Air clearances and creepage distances between the power circuits

Standards/regulations	DIN EN 60664-1
-----------------------	----------------

Mounting

Mounting type	DIN rail mounting
Assembly instructions	in rows with zero spacing
Mounting position	any

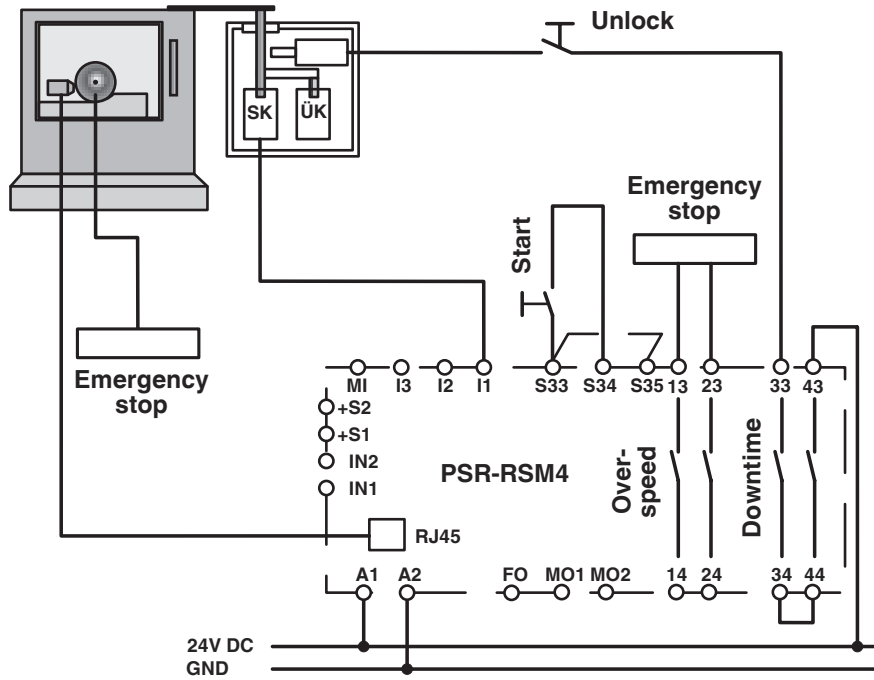
PSR-SPP- 24DC/RSM4/4X1 - Safety relay module

2981541

<https://www.phoenixcontact.com/us/products/2981541>

Drawings

Diagram



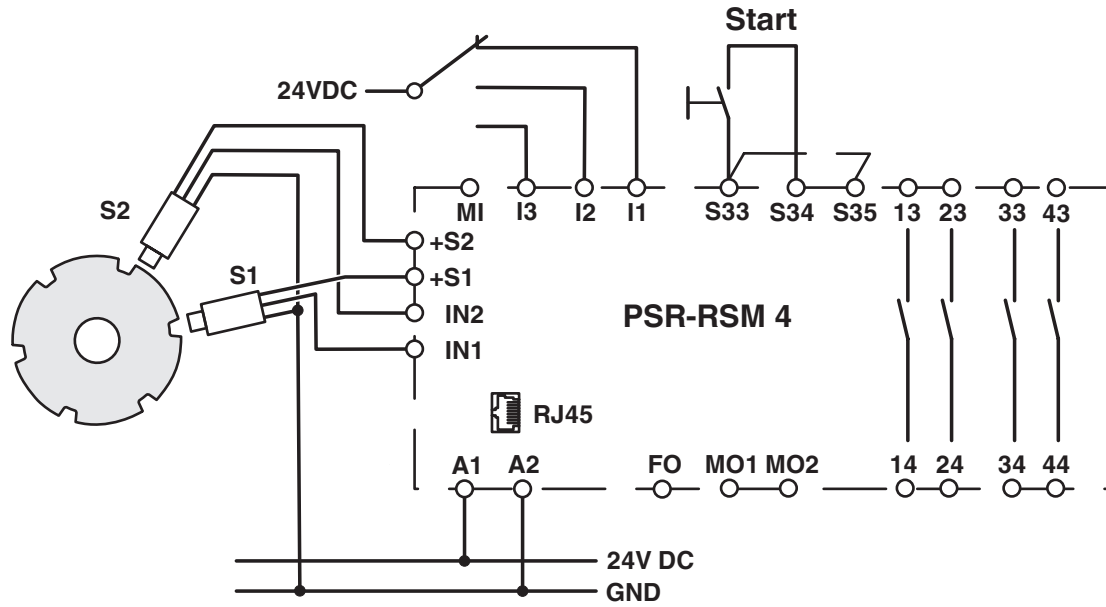
PSR-SPP- 24DC/RSM4/4X1 - Safety relay module



2981541

<https://www.phoenixcontact.com/us/products/2981541>

Circuit diagram



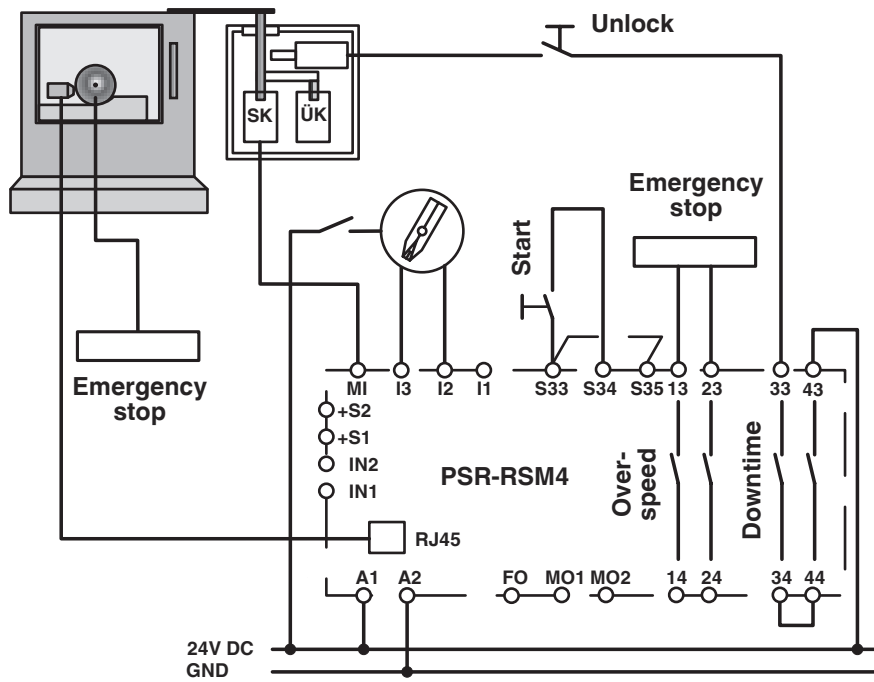
PSR-SPP- 24DC/RSM4/4X1 - Safety relay module



2981541

<https://www.phoenixcontact.com/us/products/2981541>

Diagram



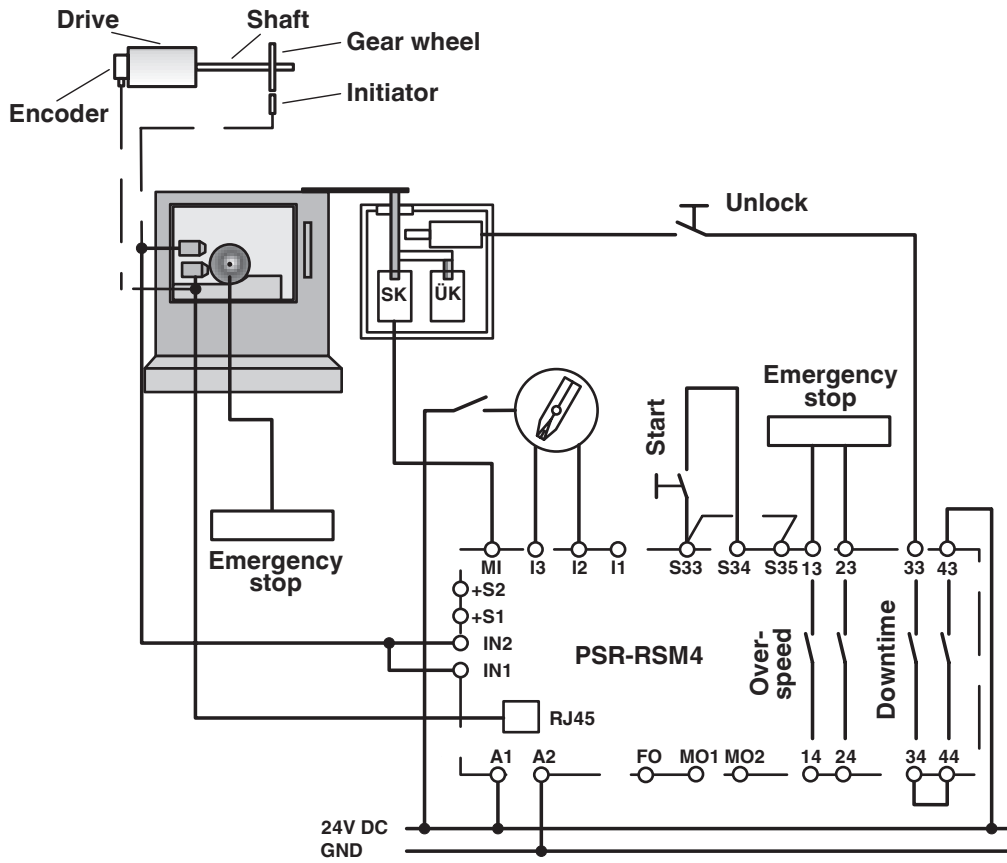
PSR-SPP- 24DC/RSM4/4X1 - Safety relay module



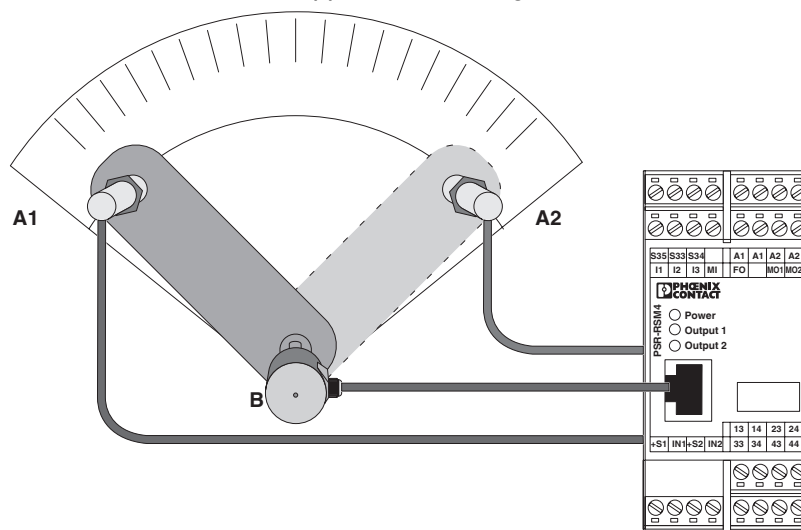
2981541

<https://www.phoenixcontact.com/us/products/2981541>

Diagram



Application drawing

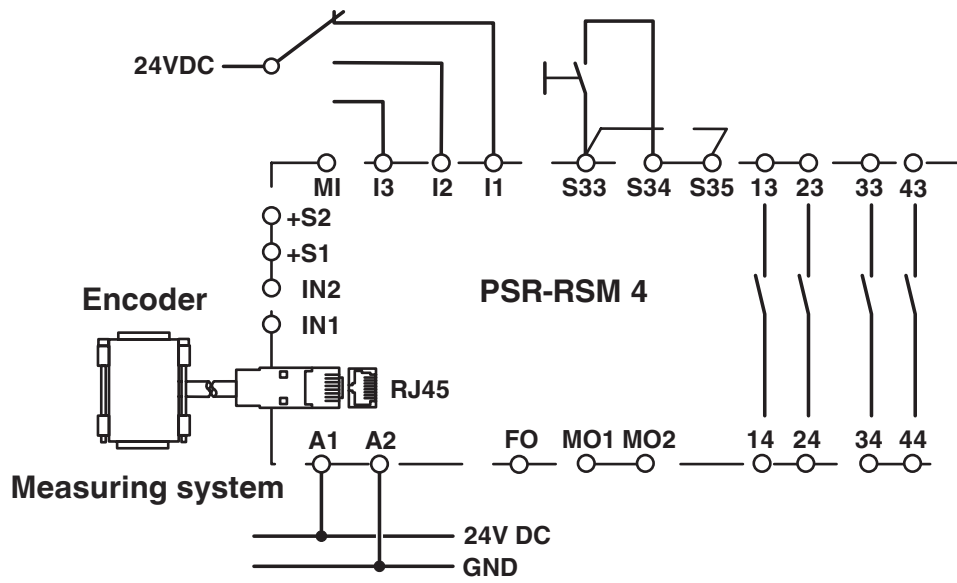


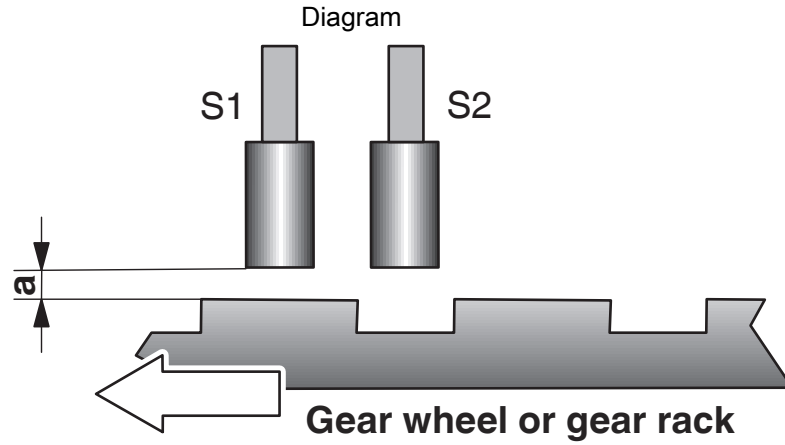
PSR-SPP- 24DC/RSM4/4X1 - Safety relay module

2981541

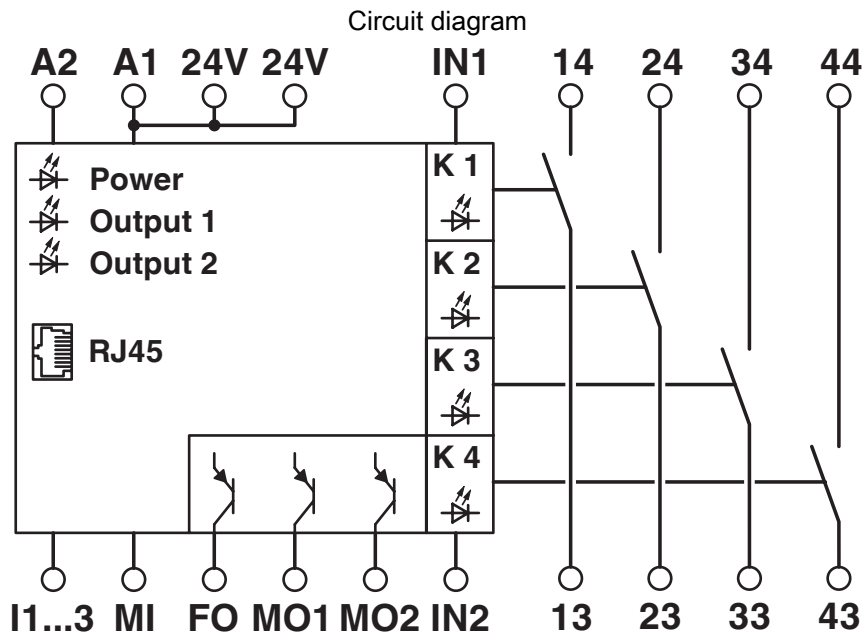
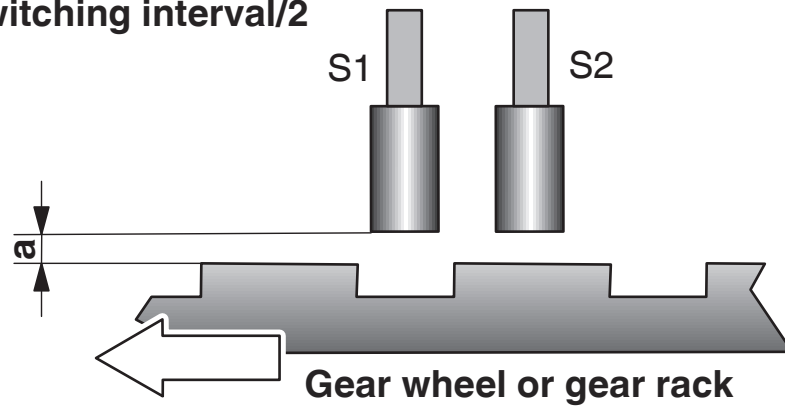
<https://www.phoenixcontact.com/us/products/2981541>

Diagram





$a = \text{Switching interval}/2$



PSR-SPP- 24DC/RSM4/4X1 - Safety relay module



2981541

<https://www.phoenixcontact.com/us/products/2981541>

Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2981541>



EAC

Approval ID: TR TS_D_01838-19



UL Listed

Approval ID: FILE E 140324



cUL Listed

Approval ID: FILE E 140324



Functional Safety

Approval ID: 01/205/5199.03/22

cULus Listed

PSR-SPP- 24DC/RSM4/4X1 - Safety relay module



2981541

<https://www.phoenixcontact.com/us/products/2981541>

Classifications

ECLASS

ECLASS-11.0	27371811
ECLASS-12.0	27371811
ECLASS-13.0	27371811

ETIM

ETIM 9.0	EC001448
----------	----------

UNSPSC

UNSPSC 21.0	39122300
-------------	----------

PSR-SPP- 24DC/RSM4/4X1 - Safety relay module



2981541

<https://www.phoenixcontact.com/us/products/2981541>

Environmental product compliance

China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

Phoenix Contact 2024 © - all rights reserved
<https://www.phoenixcontact.com>

Phoenix Contact USA
586 Fulling Mill Road
Middletown, PA 17057, United States
(+717) 944-1300
info@phoenixcon.com