

Safety relays - PSR-SCP- 24DC/SDC4/2X1/B - 2981486

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's documentation. Our General Terms of Use for Downloads are valid (<http://download.phoenixcontact.com>)



Safety relay for emergency stop, safety door, and magnetic switches, as well as light grid, up to SIL 3 or Cat. 4, PL e according to EN ISO 13849, 2 N/O contacts, TBUS interface, automatic or manual activation, plug-in screw connection terminal blocks

Product Features

- Up to Cat. 4/PL e according to ISO 13849-1, SILCL 3 according to IEC 62061, SIL 3 according to IEC 61508
- Single and two-channel control
- 2 enabling current paths, 1 signaling current path
- For emergency stop and safety door monitoring, plus evaluation of light grids (suitable light grids available on request)
- Modular system with TBUS extension



Key commercial data

package_quantity	1
GTIN	4046356051682

Technical data

Note

Utilization restriction	EMC: class A product, see manufacturer's declaration in the download area
-------------------------	---

Dimensions

Width	22.5 mm
Height	99 mm
Depth	114.5 mm

Ambient conditions

Ambient temperature (operation)	-20 °C ... 55 °C
Ambient temperature (storage/transport)	-40 °C ... 70 °C

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	70 mA
Voltage at input/start and feedback circuit	approx. 24 V DC
Typical response time	20 ms (manual start)

Safety relays - PSR-SCP- 24DC/SDC4/2X1/B - 2981486

Technical data

Input data

Typical response time	150 ms (automatic start)
Typical release time	10 ms
Recovery time	1 s
Max. permissible overall conductor resistance	50 Ω (Input and start circuits at U _N)

Output data

Contact type	2 enabling current paths
Contact type	1 semiconductor signaling output
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)
Limiting continuous current	100 mA (signal output)
Inrush current, minimum	25 mA
Maximum inrush current	6 A
Sq. Total current	$72 A^2 (I_{TH}^2 = I_1^2 + I_2^2)$
Interrupting rating (ohmic load) max.	144 W (24 V DC, τ = 0 ms)
Interrupting rating (ohmic load) max.	288 W (48 V DC, τ = 0 ms)
Interrupting rating (ohmic load) max.	77 W (110 V DC, τ = 0 ms)
Interrupting rating (ohmic load) max.	88 W (220 V DC, τ = 0 ms)
Interrupting rating (ohmic load) max.	1500 VA (250 V AC, τ = 0 ms)
Maximum interrupting rating (inductive load)	48 W (24 V DC, τ = 40 ms)
Maximum interrupting rating (inductive load)	40 W (48 V DC, τ = 40 ms)
Maximum interrupting rating (inductive load)	35 W (110 V DC, τ = 40 ms)
Maximum interrupting rating (inductive load)	33 W (220 V DC, τ = 40 ms)
Switching capacity min.	0.4 W
Output fuse	10 A gL/gG NEOZED (N/O contact)
Output fuse	Miniature circuit breaker C6 (24 V / 20 A power supply unit)

General

Relay type	Electromechanically forcibly guided, dust-proof relay.
Mechanical service life	Approx. 10 ⁷ cycles
Mounting type	DIN rail mounting
Degree of protection	IP20
Min. degree of protection of inst. location	IP54
Mounting position	any
Category according to EN 13849-1	2
Category according to EN 13849-1	4
Stop category	0
Designation	Air and creepage distances between the power circuits
Standards/regulations	DIN EN 50178/VDE 0160

Safety relays - PSR-SCP- 24DC/SDC4/2X1/B - 2981486

Technical data

General

Rated surge voltage / insulation	4 kV / Basic isolation, (safe isolation, reinforced insulation and 6 kV between input circuit and enabling current paths.)
Rated insulation voltage	250 V
Pollution degree	2
Surge voltage category	III

Connection data

Conductor cross section solid min.	0.2 mm ²
Conductor cross section solid max.	2.5 mm ²
Conductor cross section stranded min.	0.2 mm ²
Conductor cross section stranded max.	2.5 mm ²
Conductor cross section AWG/kcmil min.	24
Conductor cross section AWG/kcmil max	12
Stripping length	7 mm
Screw thread	M3
Connection method	Screw connection

Safety-related characteristic data

Stop category	0
Designation	IEC 61508 - High demand
Safety Integrity Level (SIL)	3
SFF_{Single-channel}	99.48 %
SFF_{Two-channel}	99.82 %
Mean time to a hazardous failure (MTTF_d)	450586 Years
Probability of a hazardous failure per hour (PFH_D)	2.53 x 10 ⁻¹⁰
Diagnostic coverage (DC)	99 %
Proof test interval	< 12 Months
Duration of use	240 Months
Note	The details apply assuming the following calculation basis:dop: 365.25 days (assumption)hop: 24 hours (assumption)tcycle: 3600 seconds (assumption)B10d for AC-15 6A: 300 000 (manufacturer's value)Data only applies if the safety function is demanded at least once a year. Only applies if signal contact is left in position!
Designation	IEC 61508 - Low demand
Safety Integrity Level (SIL)	3
SFF_{Single-channel}	99.48 %
SFF_{Two-channel}	90.34 %
Mean time to a hazardous failure (MTTF_d)	11319 Years
Probability of a hazardous failure on demand (PFD_{AVG})	1,43 x 10 ⁻⁴
Diagnostic coverage (DC)	0 %
Proof test interval	40 Months
Duration of use	240 Months
Designation	EN ISO 13849
Performance level (PL)	e

Safety relays - PSR-SCP- 24DC/SDC4/2X1/B - 2981486

Technical data

Safety-related characteristic data

Category	4 (Undelayed contacts)
Mean time to a hazardous failure (MTTF_d)	244 Years (high)
Diagnostic coverage (DC_{avg})	99 %
CCF	Passed
T_{10d}	34 Years
Duration of use	240 Months
Note	The details apply assuming the following calculation basis:dop: 365.25 days (assumption)hop: 24 hours (assumption)tcycle: 3600 seconds (assumption)B10d for AC-15 6A: 300 000 (manufacturer's value)Data only applies if the safety function is demanded at least once a year. Only applies if signal contact is left in position!
Designation	EN 62061
Safety Integrity Level Claim Limit (SIL CL)	3
PFH_b	2,53 x 10 ⁻¹⁰
Proof test interval	< 12 Months
Duration of use	240 Months
Note	The details apply assuming the following calculation basis:dop: 365.25 days (assumption)hop: 24 hours (assumption)tcycle: 3600 seconds (assumption)B10d for AC-15 6A: 300 000 (manufacturer's value)Data only applies if the safety function is demanded at least once a year. Only applies if signal contact is left in position!

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

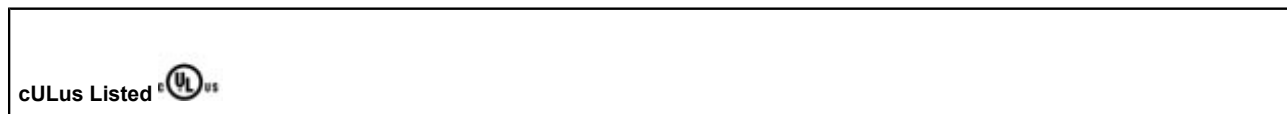
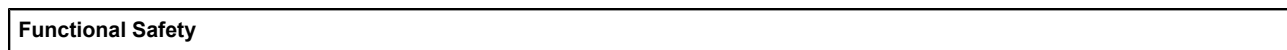
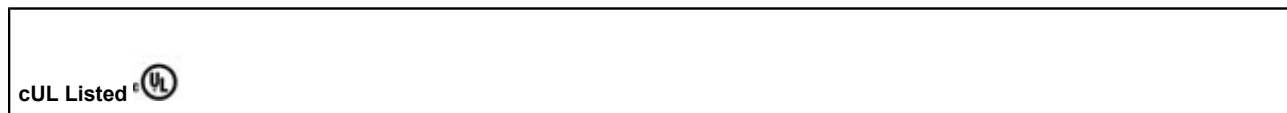
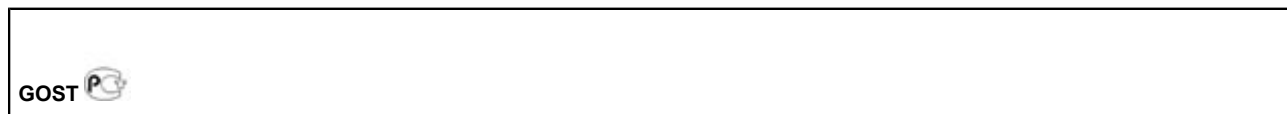
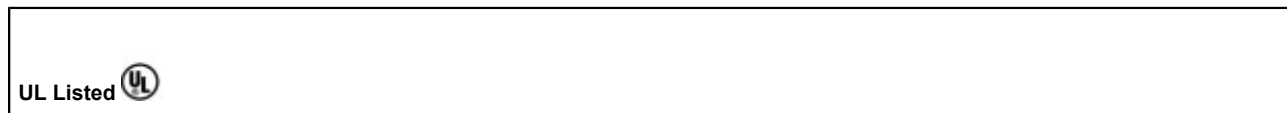
UNSPSC 6.01	30211901
UNSPSC 7.0901	39121501
UNSPSC 11	39121501
UNSPSC 12.01	39121501
UNSPSC 13.2	39121501

Safety relays - PSR-SCP- 24DC/SDC4/2X1/B - 2981486

approvals

UL Listed / GOST / cUL Listed / Functional Safety / cULus Listed /

Approval details



accessories

DIN rail connector

PSR-TBUS - 2890425



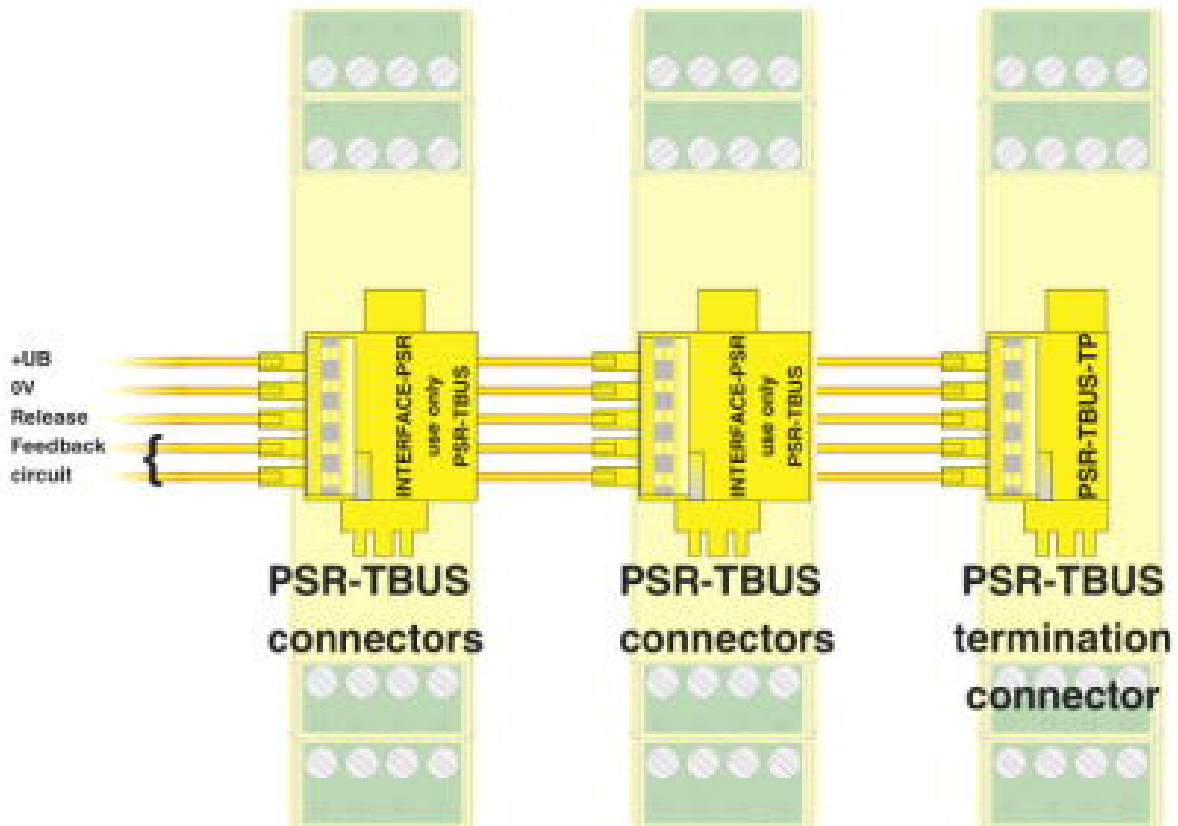
PSR-TBUS-TP - 2981716



Drawings

Safety relays - PSR-SCP- 24DC/SDC4/2X1/B - 2981486

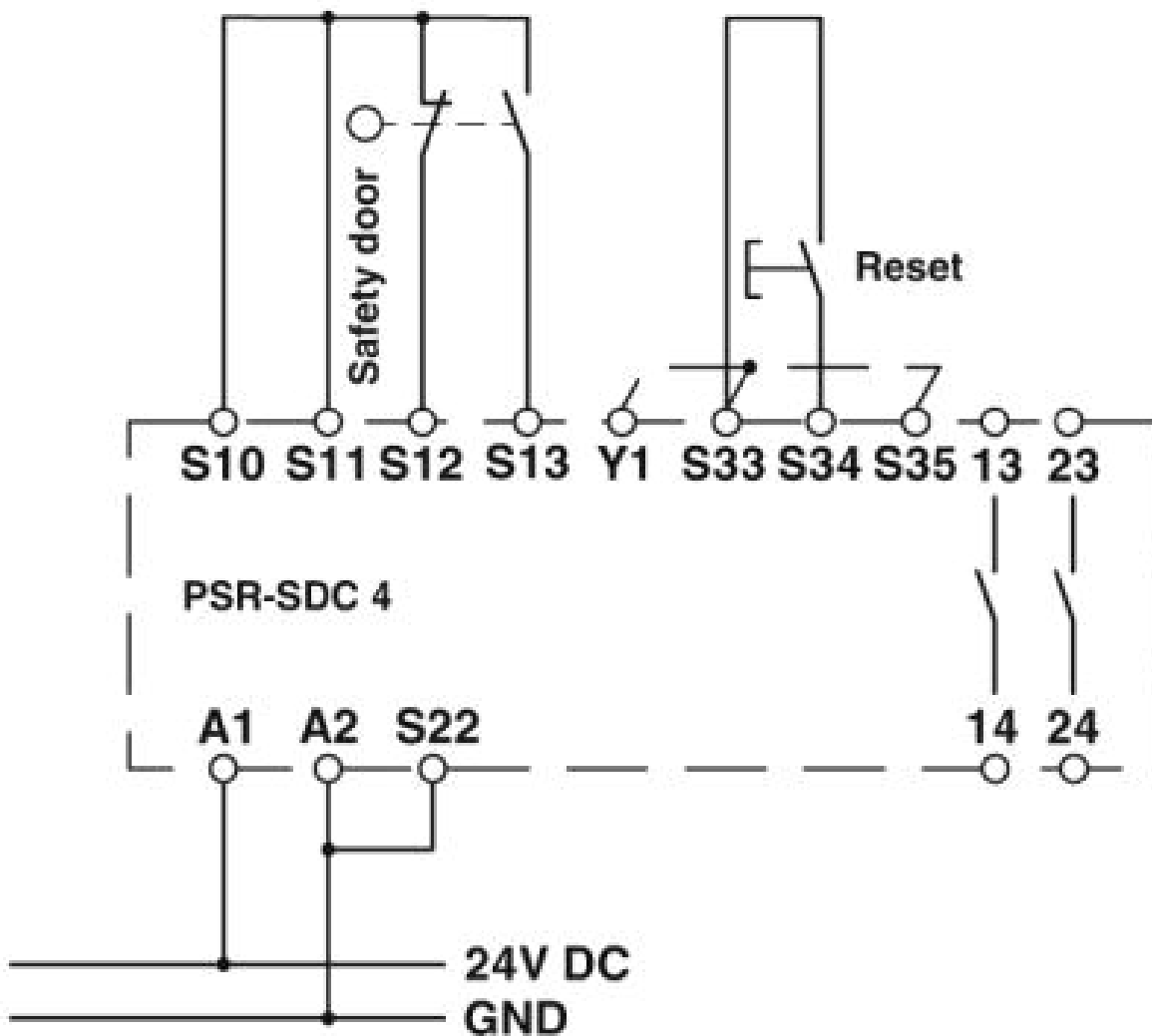
Connection diagram



PSR-TBUS DIN rail connectors are used for cross-wiring between the modules.

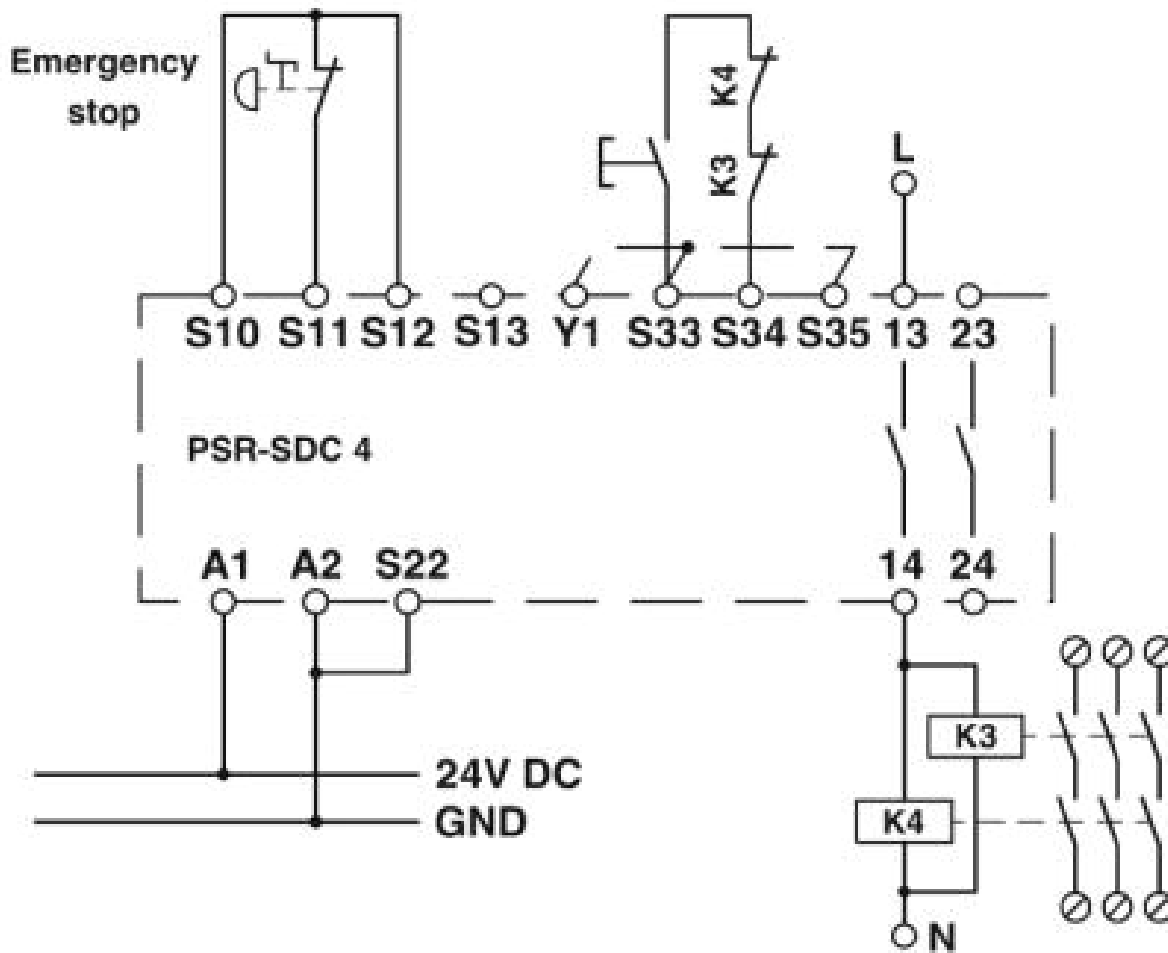
Safety relays - PSR-SCP- 24DC/SDC4/2X1/B - 2981486

Diagram



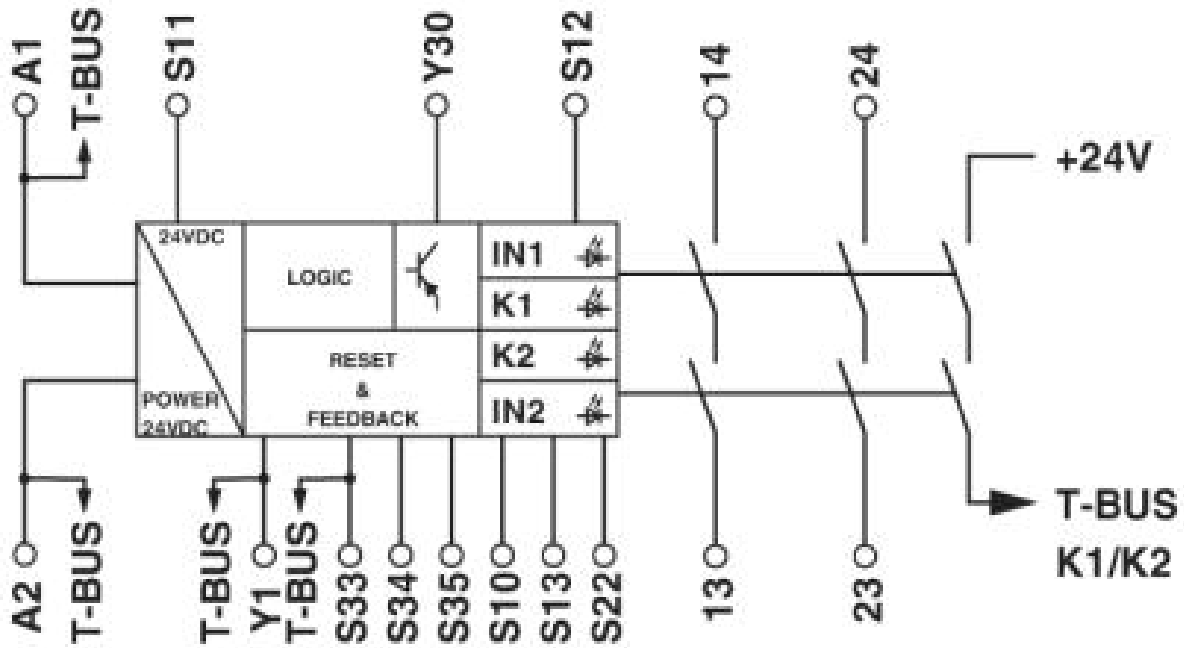
Safety relays - PSR-SCP- 24DC/SDC4/2X1/B - 2981486

Diagram



Safety relays - PSR-SCP- 24DC/SDC4/2X1/B - 2981486

Circuit diagram



Safety relays - PSR-SCP- 24DC/SDC4/2X1/B - 2981486

Circuit diagram

