

PSR-MS30-1NO-24DC-SC - Safety relays



2904952

<https://www.phoenixcontact.com/cn/products/2904952>

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 doors up to SILCL SIL 3, Cat. 4, PL e, 1 or 2-channel operation, automatic start, cross-circuit detection, 1 enabling current path, $U_S = 24\text{ V DC}$, fixed screw terminal block

Your advantages

- Up to Cat. 4/PL e in accordance with EN ISO 13849-1, SIL 3 in accordance with EN IEC 62061
- Low housing width of just 6.8 mm
- 2 channel control
- 1 enabling current path
- Automatic activation
- Cross-circuit detection

Commercial data

Item number	2904952
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DNA171
Product key	DNA171
Catalog page	Page 216 (C-6-2019)
GTIN	4046356905008
Weight per piece (including packing)	88.2 g
Weight per piece (excluding packing)	69 g
Customs tariff number	8536411090
Country of origin	DE

PSR-MS30-1NO-24DC-SC - Safety relays



2904952

<https://www.phoenixcontact.com/cn/products/2904952>

Technical data

Product properties

Product type	Safety relays
Product family	PSRmini
Application	Emergency stop
	Safety door
	Solenoid switch
	Transponder
Relay type	Electromechanical relay with force-guided contacts in accordance with IEC/EN 61810-3

Times

Typical response time	< 175 ms
Typ. starting time with U_s	< 250 ms (when controlled via A1)
Typical release time	< 20 ms (when controlled via A1 or S12 and S22.)
Recovery time	< 500 ms

Electrical properties

Maximum power dissipation for nominal condition	3 W ()
Nominal operating mode	100% operating factor

Air clearances and creepage distances between the power circuits

Rated insulation voltage	250 V AC
	250 V AC
Rated surge voltage/insulation	Safe isolation, reinforced insulation 6 kV between input circuit and enabling current path Basic insulation 4 kV between all current paths and housing

Supply

Designation	A1/A2
Rated control circuit supply voltage U_s	20.4 V DC ... 26.4 V DC
Rated control circuit supply voltage U_s	24 V DC -15 % / +10 %
Rated control supply current I_s	typ. 42 mA
Power consumption at U_s	typ. 1 W
Inrush current	4.5 A ($\Delta t < 120 \mu s$ at U_s)
Filter time	1 ms (at A1 in the event of voltage dips at U_s)
Protective circuit	Surge protection; Suppressor diode
	Protection against polarity reversal for rated control circuit supply voltage

Input data

Digital: Sensor circuit (S11, S12, S22)

Description of the input	safety-related sensor inputs
Input voltage range "0" signal	0 V DC ... 5 V DC (for safe Off; at S12)

PSR-MS30-1NO-24DC-SC - Safety relays



2904952

<https://www.phoenixcontact.com/cn/products/2904952>

Input current range "0" signal	0 mA ... 2 mA (for safe Off; at S12)
Inrush current	< 20 mA (with U_s/I_x to S12)
	< 5 mA (with U_s/I_x to S22)
	> -15 mA (with U_s/I_x to S22/0V)
Filter time	max. 1.5 ms (at S12, S22; test pulse width)
	min. 7.5 ms (at S12, S22; test pulse rate)
	Test pulse rate = 5 x Test pulse width
Max. permissible overall conductor resistance	150 Ω
Current consumption	< 5 mA (with U_s/I_x to S12)
	< 5 mA (with U_s/I_x to S22)
	> -5 mA (with U_s/I_x to S22/0V)

Digital: Start circuit (S35)

Description of the input	non-safety-related
Number of inputs	1
Input voltage range "1" signal	20.4 V DC ... 26.4 V DC
Inrush current	< 10 mA
Max. permissible overall conductor resistance	150 Ω
Protective circuit	Suppressor diode
Current consumption	< 10 mA

Output data

Relay: Enabling current path (13/14)

Output description	safety-related N/O contacts
Number of outputs	1 (undelayed)
Contact switching type	1 enabling current path
Contact material	AgSnO ₂
Switching voltage	min. 12 V AC/DC
	max. 250 V AC/DC (Observe the load curve)
Switching capacity	min. 60 mW
Inrush current	min. 3 mA
	max. 6 A
Limiting continuous current	6 A (observe derating)
Sq. Total current	36 A ² (observe derating)
Switching frequency	max. 0.5 Hz
Mechanical service life	10x 10 ⁶ cycles
Output fuse	6 A gL/gG (N/O contact)
	4 A gL/gG (for low-demand applications)

Connection data

Connection technology

pluggable	no
-----------	----

Conductor connection

PSR-MS30-1NO-24DC-SC - Safety relays



2904952

<https://www.phoenixcontact.com/cn/products/2904952>

Connection method	Screw connection
Conductor cross section rigid	0.2 mm ² ... 2.5 mm ²
Conductor cross section flexible	0.2 mm ² ... 2.5 mm ²
Conductor cross-section AWG	24 ... 12
Stripping length	12 mm
Screw thread	M3

Signaling

Status display	2 x green LEDs
Operating voltage display	1 x green LED

Dimensions

Width	6.8 mm
Height	93.1 mm
Depth	102.5 mm

Material specifications

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

Characteristics

Safety data

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

Safety data: EN ISO 13849

Category	4
Performance level (PL)	e (4 A DC13; 5 A AC15; 8760 switching cycles/year)

Safety data: IEC 61508 - High demand

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)	-40 °C ... 60 °C (observe derating)
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Maximum altitude	≤ 2000 m (Above sea level)
Max. permissible humidity (storage/transport)	75 % (on average, 85% infrequently, non-condensing)

PSR-MS30-1NO-24DC-SC - Safety relays



2904952

<https://www.phoenixcontact.com/cn/products/2904952>

Max. permissible relative humidity (operation)	75 % (on average, 85% infrequently, non-condensing)
Shock	15g
Vibration (operation)	10 Hz ... 150 Hz, 2g

Approvals

CE

Certificate	CE-compliant
-------------	--------------

Standards and regulations

Air clearances and creepage distances between the power circuits

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

Mounting

Mounting type	DIN rail mounting
Assembly instructions	See derating curve
Mounting position	vertical or horizontal
Connection method	Screw connection

PSR-MS30-1NO-24DC-SC - Safety relays

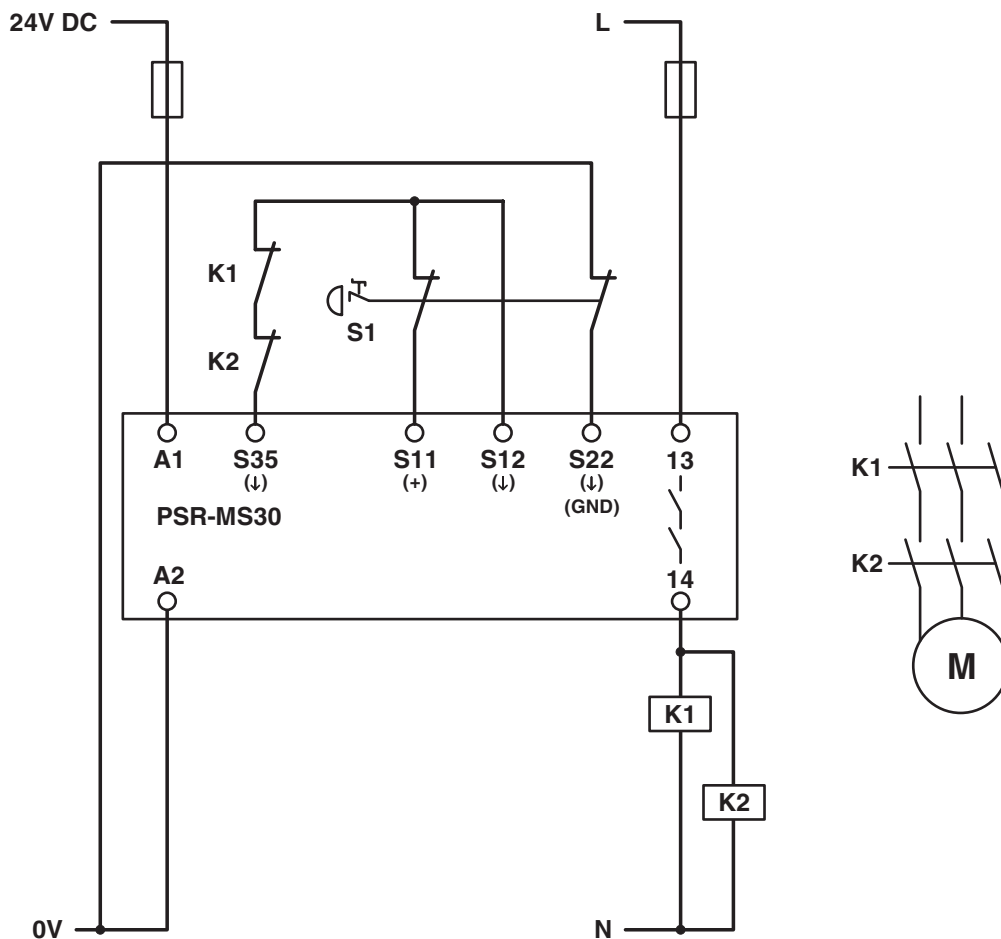
2904952

<https://www.phoenixcontact.com/cn/products/2904952>



Drawings

Application drawing

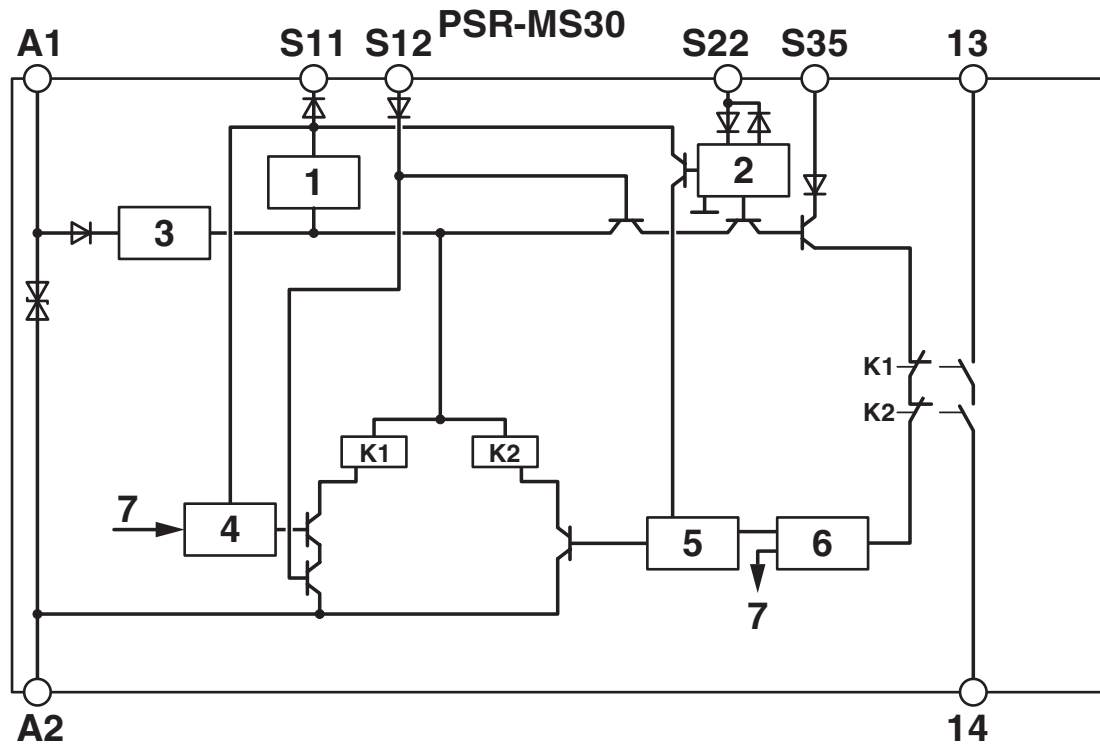


PSR-MS30-1NO-24DC-SC - Safety relays

2904952

<https://www.phoenixcontact.com/cn/products/2904952>

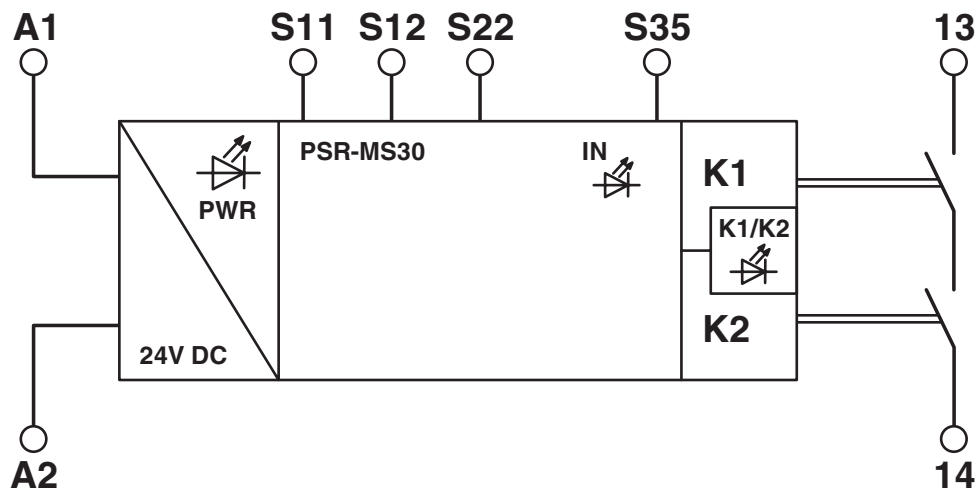
Block diagram



Key:

- 1 = Current limitation
- 2 = Input circuit
- 3 = Voltage limitation
- 4 = Control circuit channel 1
- 5 = Control circuit channel 2
- 6 = Start channel 1 and 2
- 7 = Channel 1
- K1, K2 = Force-guided elementary relays

Block diagram



Block diagram

PSR-MS30-1NO-24DC-SC - Safety relays




2904952


<https://www.phoenixcontact.com/cn/products/2904952>

Approvals


To download certificates, visit the product detail page: <https://www.phoenixcontact.com/cn/products/2904952>




EAC
Approval ID: RU C-DE.A*30.B.01082



UL Listed
Approval ID: FILE E 140324



cUL Listed
Approval ID: FILE E 140324



Functional Safety
Approval ID: 44-205-13755202

cULus Listed

PSR-MS30-1NO-24DC-SC - Safety relays



2904952

<https://www.phoenixcontact.com/cn/products/2904952>

Classifications

ECLASS

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

ETIM

ETIM 9.0	EC001449
----------	----------

UNSPSC

UNSPSC 21.0	39122200
-------------	----------

PSR-MS30-1NO-24DC-SC - Safety relays



2904952
<https://www.phoenixcontact.com/cn/products/2904952>

Environmental product compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads"

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

菲尼克斯（中国）投资有限公司总部
南京市江宁经济开发区菲尼克斯路36号
（江宁236信箱）邮编：211100
025-52121888
phoenix@phoenixcontact.com.cn