

# PSR-MS60-2NO-24DC-SC - Safety relays



2904958

<https://www.phoenixcontact.com/sk/products/2904958>

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, safety doors, and light grids up to SIL 3, Cat. 4, PL e, 1 or 2-channel operation, automatic start, 2 enabling current paths (1-channel),  $U_S = 24 \text{ V DC}$ , 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
- 2 single-channel enabling current paths
- Automatic activation

## Commercial data

Item number	2904958
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DNA
Product key	DNA171
Catalog page	Page 219 (C-6-2019)
GTIN	4046356904889
Weight per piece (including packing)	87 g
Weight per piece (excluding packing)	68.188 g
Customs tariff number	85371098
Country of origin	DE

# PSR-MS60-2NO-24DC-SC - Safety relays



2904958

<https://www.phoenixcontact.com/sk/products/2904958>

## Technical data

### Product properties

Product type	Safety relays
Product family	PSRmini
Application	Emergency stop
	Safety door
	Light grid
	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 (13/14) and enabling current path (23/24) 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. 40 mA
Power consumption at $U_S$	typ. 0.96 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 (S12, S22)

Description of the input	safety-related sensor inputs
--------------------------	------------------------------

# PSR-MS60-2NO-24DC-SC - Safety relays



2904958

<https://www.phoenixcontact.com/sk/products/2904958>

Input voltage range "0" signal	0 V DC ... 5 V DC (for safe Off; at S12 and S22)
Input current range "0" signal	0 mA ... 2 mA (for safe Off; at S12 and S22)
Inrush current	< 20 mA (with $U_g/I_x$ to S12) < 20 mA (with $U_g/I_x$ to S22)
Filter time	max. 1.5 ms (Test pulse duration) min. 7.5 ms (Test pulse rate) Test pulse rate = 5 x Test pulse width
Max. permissible overall conductor resistance	150 $\Omega$
Voltage at input/start and feedback circuit	24 V DC -15 % / +10 %
Current consumption	< 5 mA (with $U_g/I_x$ to S12) < 5 mA (with $U_g/I_x$ to S22)

## Output data

Relay: Enabling current path (13/14, 23/24)

Output description	safety-related N/O contacts (1-channel)
Number of outputs	2 (undelayed)
Contact switching type	2 enabling current paths
Contact material	AgSnO <sub>2</sub>
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	72 A <sup>2</sup> (observe derating)
Switching frequency	max. 0.5 Hz
Mechanical service life	10x 10 <sup>6</sup> 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

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

## Signaling

Status display	2 x green LEDs
----------------	----------------

# PSR-MS60-2NO-24DC-SC - Safety relays



2904958

<https://www.phoenixcontact.com/sk/products/2904958>

Operating voltage display	1 x green LED
---------------------------	---------------

## Dimensions

Width	6.8 mm
Height	93.1 mm
Depth	102.5 mm

## Material specifications

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 ... 55 °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)
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

# PSR-MS60-2NO-24DC-SC - Safety relays



2904958

<https://www.phoenixcontact.com/sk/products/2904958>

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

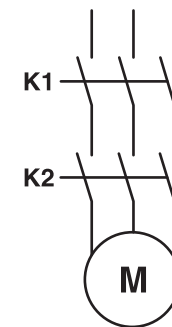
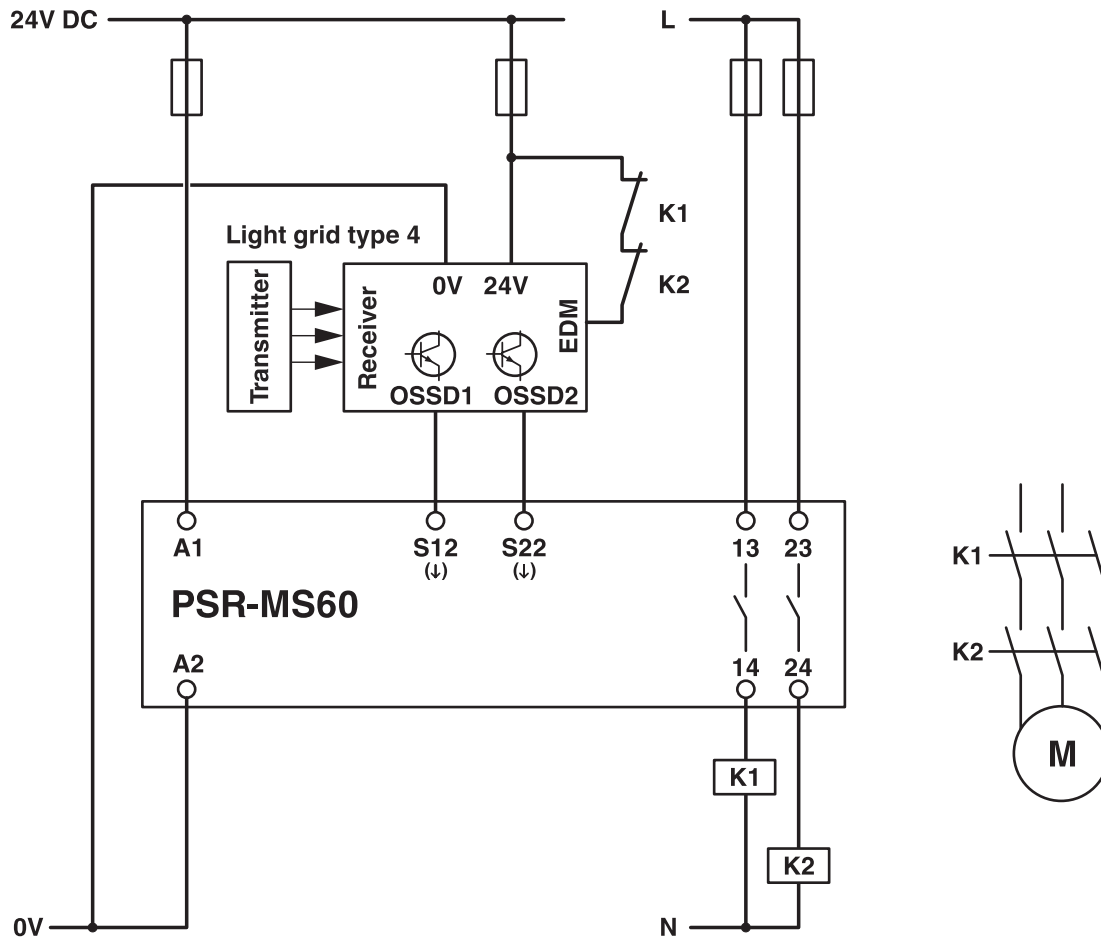
# PSR-MS60-2NO-24DC-SC - Safety relays

2904958

<https://www.phoenixcontact.com/sk/products/2904958>

## Drawings

Application drawing



# PSR-MS60-2NO-24DC-SC - Safety relays

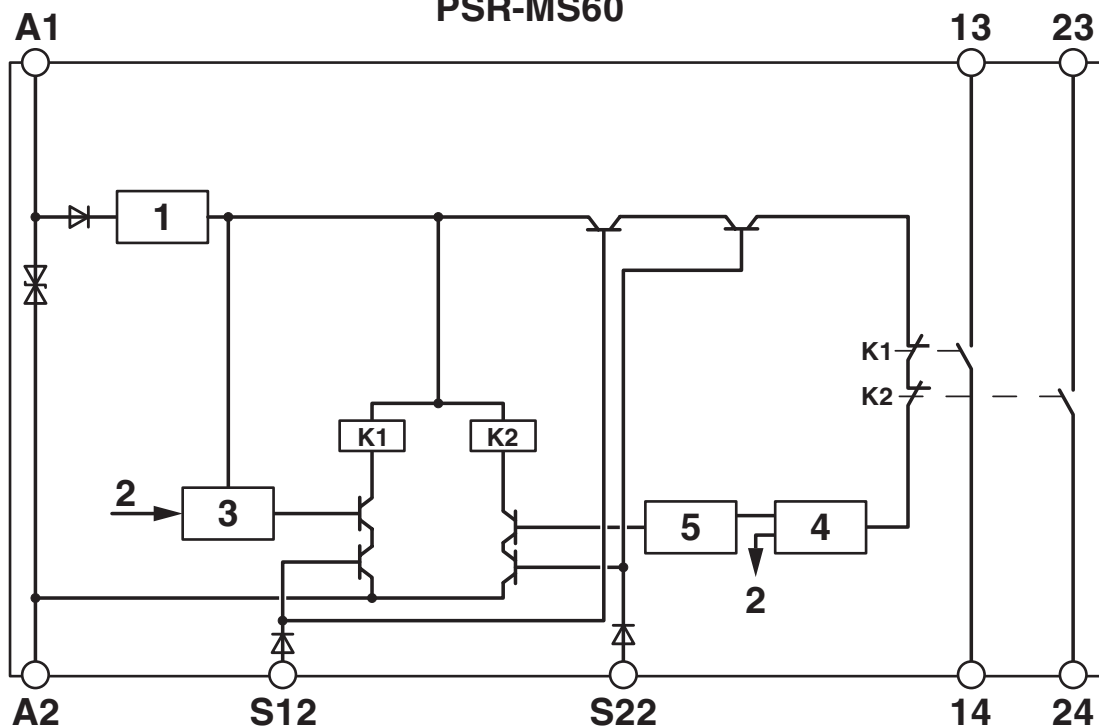


2904958

<https://www.phoenixcontact.com/sk/products/2904958>

Block diagram

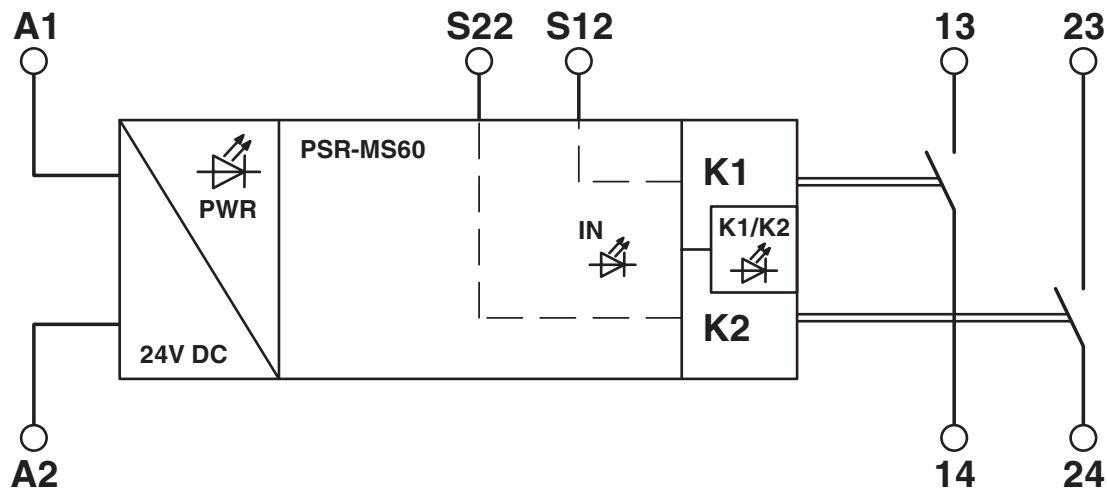
## PSR-MS60



### Key:

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

Block diagram



Block diagram

# PSR-MS60-2NO-24DC-SC - Safety relays



2904958

<https://www.phoenixcontact.com/sk/products/2904958>

## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/sk/products/2904958>



**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-MS60-2NO-24DC-SC - Safety relays



2904958

<https://www.phoenixcontact.com/sk/products/2904958>

## Classifications

### ECLASS

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

### ETIM

ETIM 8.0	EC001449
----------	----------

### UNSPSC

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

# PSR-MS60-2NO-24DC-SC - Safety relays



2904958

<https://www.phoenixcontact.com/sk/products/2904958>

## 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"

# PSR-MS60-2NO-24DC-SC - Safety relays



2904958

<https://www.phoenixcontact.com/sk/products/2904958>

## Accessories

ZBF 6:UNBEDRUCKT - Zack Marker strip, flat

0808710

<https://www.phoenixcontact.com/sk/products/0808710>



Zack Marker strip, flat, Strip, white, unlabeled, can be labeled with: PLOTMARK, CMS-P1-PLOTTER, mounting type: snapped, for terminal block width: 6.2 mm, lettering field size: 5.15 x 6.15 mm, Number of individual labels: 10

---

Phoenix Contact 2023 © - all rights reserved  
<https://www.phoenixcontact.com>

PHOENIX CONTACT s.r.o.  
Námestie Mateja Korvína 1  
811 07 Bratislava  
+421 2 3210 1470  
[obchod.sk@phoenixcontact.com](mailto:obchod.sk@phoenixcontact.com)