

## Safety relays - PSR-SCP- 24UC/ESM4/2X1/1X2 - 2963718

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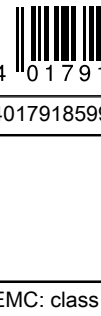
Safety relay for emergency stop and safety door monitoring up to SIL 3 or Cat. 4, PL e according to EN ISO 13849, single or two-channel operation

### Your advantages

- Up to Cat.4/PL e according to EN ISO 13849-1, SILCL 3 according to EN 62061, SIL 3 according to IEC 61508
- Single and two-channel control
- 2 enabling current paths, 1 signaling current path



### Key Commercial Data

Packing unit	1 pc
GTIN	 4 017918 599379
GTIN	4017918599379

### Technical data

#### Note

Utilization restriction	EMC: class A product, see manufacturer's declaration in the download area
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#### 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
Maximum altitude	≤ 2000 m (Above sea level)

#### Input data

Nominal input voltage $U_N$	24 V AC/DC
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### Technical data

#### Input data

Input voltage range in reference to $U_N$	0.85 ... 1.1
Typical input current at $U_N$	140 mA AC
	65 mA DC
Voltage at input/start and feedback circuit	approx. 24 V DC
Typical response time	20 ms (Monitored/manual start)
Typical release time	45 ms (single-channel)
	10 ms (two-channel)
Concurrence input 1/2	$\infty$
Recovery time	1 s
Operating voltage display	Green LED
Status display	Green LED
Protective circuit	Surge protection Suppressor diode
Max. permissible overall conductor resistance	approx. 50 $\Omega$ (Input and start circuits at $U_N$ )

#### Output data

Contact type	2 enabling current paths
	1 signaling current path
Contact material	AgSnO <sub>2</sub> , + 0.2 $\mu$ m Au
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	72 A <sup>2</sup> ( $I_{TH}^2 = I_1^2 + I_2^2$ )
Interrupting rating (ohmic load) max.	144 W (24 V DC, $\tau = 0$ ms)
	288 W (48 V DC, $\tau = 0$ ms)
	77 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)	48 W (24 V DC, $\tau = 40$ ms)
	40 W (48 V DC, $\tau = 40$ ms)
	35 W (110 V DC, $\tau = 40$ ms)
	35 W (220 V DC, $\tau = 40$ ms)
Switching capacity min.	0.4 W
Mechanical service life	approx. 10 <sup>7</sup> cycles
Switching capacity (360/h cycles)	6 A (24 V DC)
	5 A (230 V AC)
Output fuse	10 A gL/gG NEOZED (N/O contact)
	6 A gL/gG NEOZED (N/C contact)

#### General

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## Technical data

### General

Relay type	Electromechanical relay with force-guided contacts in accordance with IEC/EN 61810-3
Nominal operating mode	100% operating factor
Net weight	192.1 g
Mounting position	any
Mounting type	DIN rail mounting
Degree of protection	IP20
Min. degree of protection of inst. location	IP54
Housing color	yellow

### Connection data

Connection method	Screw connection
pluggable	Yes
Conductor cross section solid	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	7 mm
Screw thread	M3

### Safety-related characteristic data

Stop category	0
Designation	IEC 61508 - High demand
Safety Integrity Level (SIL)	3
Designation	IEC 61508 - Low demand
Safety Integrity Level (SIL)	3
Designation	EN ISO 13849
Performance level (PL)	e
Category	4
Designation	EN 62061
Safety Integrity Level Claim Limit (SIL CL)	3

### Standards and Regulations

Designation	Air clearances and creepage distances between the power circuits
Standards/regulations	DIN EN 50178/VDE 0160
Rated insulation voltage	250 V
Rated surge voltage/insulation	6 kV / Safe isolation, increased insulation
Degree of pollution	2
Overvoltage category	III
Shock	15g
Vibration (operation)	10 Hz ... 150 Hz, 2g

### Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
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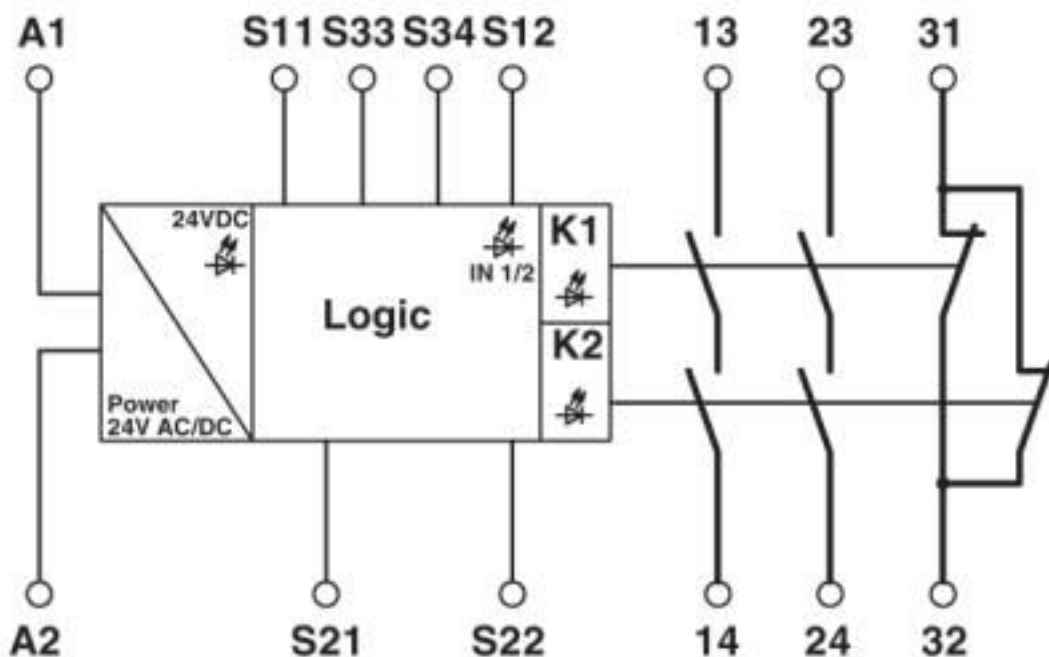
## Technical data

### Environmental Product Compliance

China RoHS	Environmentally Friendly Use Period = 50 years
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

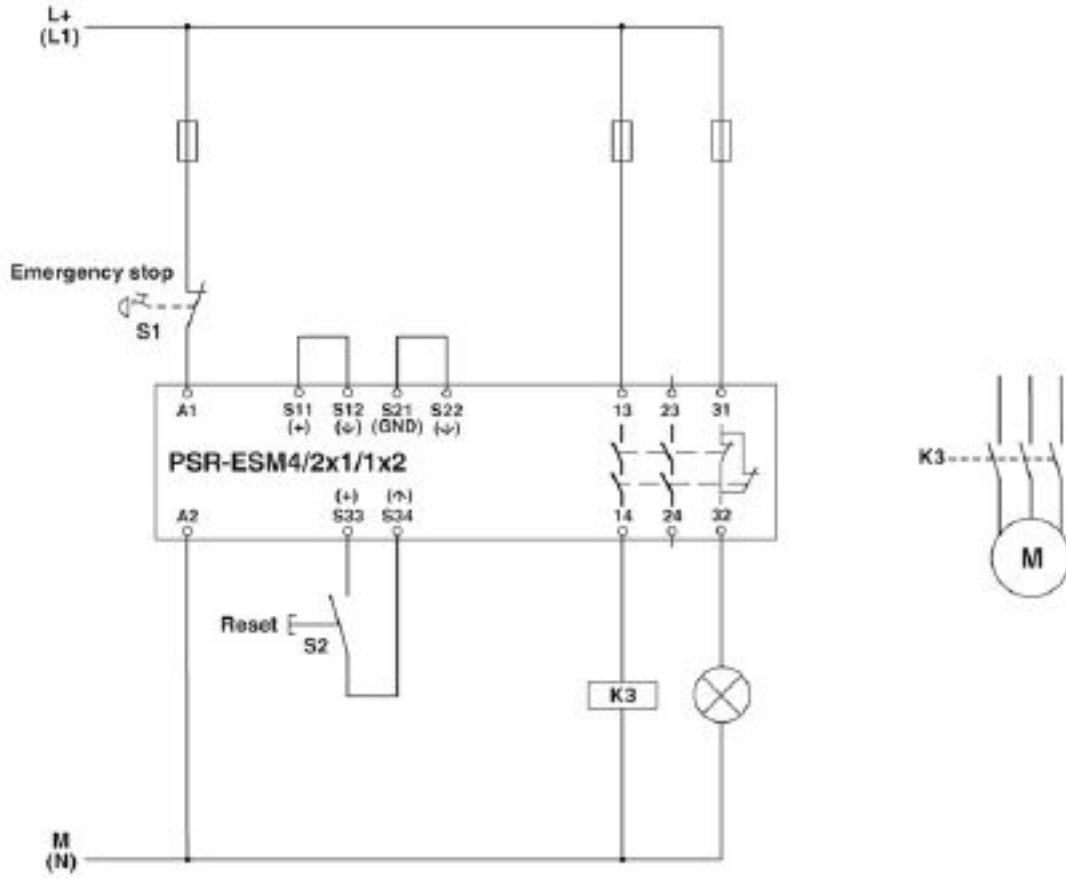
## Drawings

Circuit diagram



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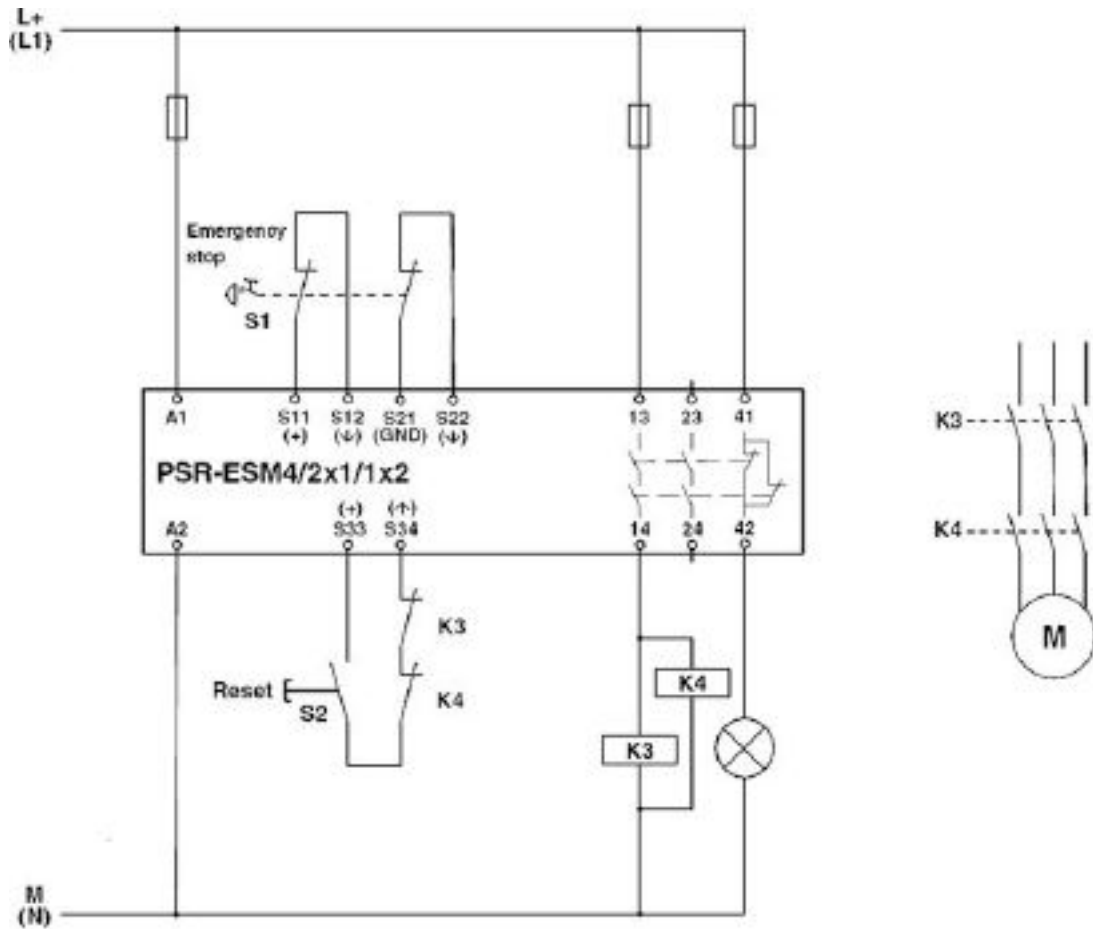
Circuit diagram



Single-channel emergency stop monitoring

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Circuit diagram



Two-channel emergency stop monitoring

## Classifications

eCl@ss

eCl@ss 10.0.1	27371819
eCl@ss 4.0	40020600
eCl@ss 4.1	40020600
eCl@ss 5.0	27371900
eCl@ss 5.1	27371900
eCl@ss 6.0	27371800
eCl@ss 7.0	27371819
eCl@ss 8.0	27371819
eCl@ss 9.0	27371819

ETIM

ETIM 2.0	EC000196
ETIM 3.0	EC001449

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## Classifications

### ETIM

ETIM 4.0	EC001449
ETIM 5.0	EC001449
ETIM 6.0	EC001449
ETIM 7.0	EC001449

### UNSPSC

UNSPSC 6.01	30211901
UNSPSC 7.0901	39121501
UNSPSC 11	39121501
UNSPSC 12.01	39121501
UNSPSC 13.2	39121501
UNSPSC 18.0	39122205
UNSPSC 19.0	39122205
UNSPSC 20.0	39122205
UNSPSC 21.0	39122205

## Approvals

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UL Listed / cUL Listed / Functional Safety / Functional Safety / Functional Safety / Functional Safety / UL Listed / cUL Listed / Functional Safety / EAC / EAC / EAC

#### Ex Approvals

### Approval details

UL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 140324
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cUL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 140324
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Functional Safety		01/205/0652.01/15
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Functional Safety			968/EZ 404.02/15
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Functional Safety			01/205/0652.01/15
EAC			EAC-Zulassung
EAC			RU C- DE.A*30.B.01082
EAC			EAC-Zulassung



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PHOENIX CONTACT GmbH & Co. KG  
Flachsmarktstr. 8  
32825 Blomberg  
Germany  
Tel. +49 5235 300  
Fax +49 5235 3 41200  
<http://www.phoenixcontact.com>

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