

# PSR-ME40-4NO-2NC-24DC-SC - Safety relays



1397654

<https://www.phoenixcontact.com/us/products/1397654>

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Safety relay as contact extension, dropout delay can be set from 0.5 s ... 36 s, 4 enabling current paths, 1 confirmation current path, together with basic device up to Cat. 3, PL d in accordance with EN ISO 13849, plug-in screw terminal block, width: 22.5 mm

## Product description

The safety relay is used as a contact extension for safety relays for emergency stop, safety door, and light curtain monitoring and safely interrupts circuits. The enabling current paths drop with a delay of 0.5 s ... 30 s depending on the set time.

## Your advantages

- Up to Cat. 3/PL d in accordance with ISO 13849-1, SIL 2 in accordance with EN IEC 62061, SIL 2 in accordance with EN IEC 61508
- 4 dropout-delayed enabling current paths, 1 signaling current path, and 1 confirmation current path
- 1-channel control
- Reinforced insulation

## Commercial data

Item number	1397654
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DN01
Product key	DN1113
GTIN	4063151783242
Weight per piece (including packing)	197.1 g
Weight per piece (excluding packing)	166.17 g
Customs tariff number	85371098
Country of origin	DE

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## Technical data

### Notes

#### Note on application

Note on application	Only for industrial use
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### Product properties

Product type	Safety relays
Product family	PSRclassic
Application	Extension module
Set comprises	1397653 PSR-ME40-4NO-2NC-24DC-SC-SET35
Control	1-channel
Mechanical service life	approx. $10^7$ cycles
Relay type	Electromechanical relay with force-guided contacts in accordance with IEC/EN 61810-3

#### Insulation characteristics

Overvoltage category	III
Degree of pollution	2

#### Times

Typical response time	typ. 40 ms (For $U_S$ autostart)
Typical release time	50 ms (on demand via A1)
Delay time range	0.5 s ... 30 s $\pm 40$ %
Restart time	< 1 s
Recovery time	Delay time +500 ms

### Electrical properties

Maximum power dissipation for nominal condition	17 W ( $U_S = 26.4$ V, $I_L^2 = 72$ A <sup>2</sup> , $P_{Total\ max} = 2.6$ W + 14.4 W)
Nominal operating mode	100% operating factor
Rated insulation voltage	250 V
Rated surge voltage/insulation	See data sheet, section "Insulation coordination".

#### Supply

Designation	A1/A2
Rated control circuit supply voltage $U_S$	24 V DC -15 % / +10 %
Rated control supply current $I_S$	typ. 77 mA (at $U_S$ )
Power consumption at $U_S$	typ. 1.85 W
Inrush current	< 2.5 A (typ. with $U_S$ , $\Delta t = 1$ ms)
Filter time	5 ms (in the event of voltage dips at $U_S$ )
Protective circuit	Suppressor diode

### Input data

Digital: K1/K2

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Description of the input	safety-related
Number of inputs	1
Input voltage range "0" signal	0 V DC ... 5 V DC
Input voltage range "1" signal	20.4 V ... 26.4 V
Input current range "0" signal	0 mA ... 2 mA
Filter time	1 ms (Test pulse width of low test pulses)
	1 s (Test pulse rate for low test pulse)
	No brightness test pulses / high test pulses permitted.
Max. permissible overall conductor resistance	50 Ω
Protective circuit	Suppressor diode
Current consumption	typ. 14 mA

## Output data

Relay: Enabling current paths (27/28, 37/38, 47/48, 57/58)

Output description	2 N/O contacts each in series, safety-related, floating
Number of outputs	4
Contact switching type	4 enabling current paths
Contact material	AgSnO <sub>2</sub>
Switching voltage	min. 10 V AC/DC
	max. 250 V AC/DC
Switching power	min. 100 mW
Inrush current	min. 10 mA
	max. 6 A
Switching capacity	5 A (AC15)
	6 A (DC13)
Limiting continuous current	6 A (Observe derating and load limit curve)
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	10 A gL/gG
	4 A gL/gG (for low-demand applications)

Relay: Confirmation current path (15/16)

Output description	Diagnostic contact, 2 NC in series, floating
Number of outputs	1
Contact switching type	2 N/C contacts in series
Contact material	AgSnO <sub>2</sub>
Switching voltage	min. 10 V AC/DC
	max. 250 V AC/DC
Switching power	min. 100 mW
Inrush current	min. 10 mA
	max. 1 A
Switching capacity	1 A (AC15)
	1 A (DC13)

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Limiting continuous current	1 A
Sq. Total current	1 A <sup>2</sup>
Switching frequency	max. 0.5 Hz
Mechanical service life	10x 10 <sup>6</sup> cycles
Output fuse	1 A gL/gG

## Relay: Signaling current path (65/66)

Output description	2 N/C contacts parallel, non-safety-related, floating
Number of outputs	1
Contact material	AgSnO <sub>2</sub>
Switching voltage	min. 10 V AC/DC max. 250 V AC/DC
Switching power	min. 100 mW
Inrush current	max. 1 A
Switching capacity	1 A (AC15) 1 A (DC13)
Limiting continuous current	1 A (observe derating)
Sq. Total current	1 A <sup>2</sup> (observe derating)
Switching frequency	max. 0.5 Hz
Output fuse	1 A (gL/gG)

## Connection data

### Connection technology

pluggable	yes
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### 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	7 mm
Screw thread	M3
Tightening torque	0.5 Nm ... 0.6 Nm

## Signaling

Status display	2 x LED (green)
Operating voltage display	1 x LED (green)

## Dimensions

Width	22.5 mm
Height	112.2 mm
Depth	114.5 mm

## Material specifications

Color (Housing)	traffic gray B (RAL 7043)
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Housing material	PA
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## Characteristics

### Safety data

Stop category (EN 60204-1)	1
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### Safety data: EN ISO 13849

Performance level (PL)	d
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### Safety data: IEC 61508 - High demand

Safety Integrity Level (SIL)	2
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### Safety data: IEC 61508 - Low demand

Safety Integrity Level (SIL)	2
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### Safety data: EN IEC 62061

Safety Integrity Level (SIL)	2
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## 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 (observe derating)
Ambient temperature (storage/transport)	-40 °C ... 70 °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, amplitude 0.15 mm, 2g

## Approvals

### CE

Identification	CE-compliant
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## Mounting

Mounting type	DIN rail mounting
Assembly note	See derating curve
Mounting position	vertical or horizontal

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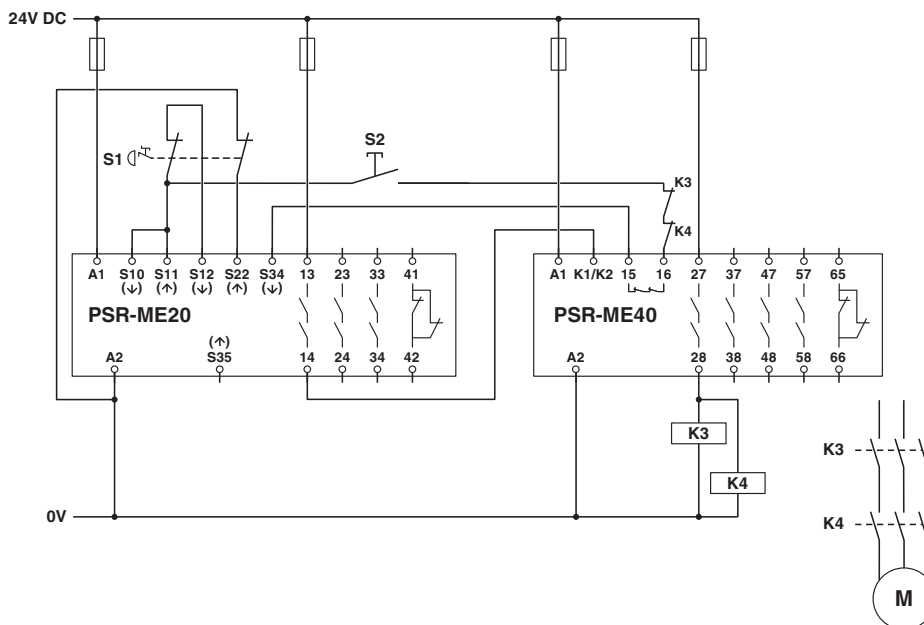


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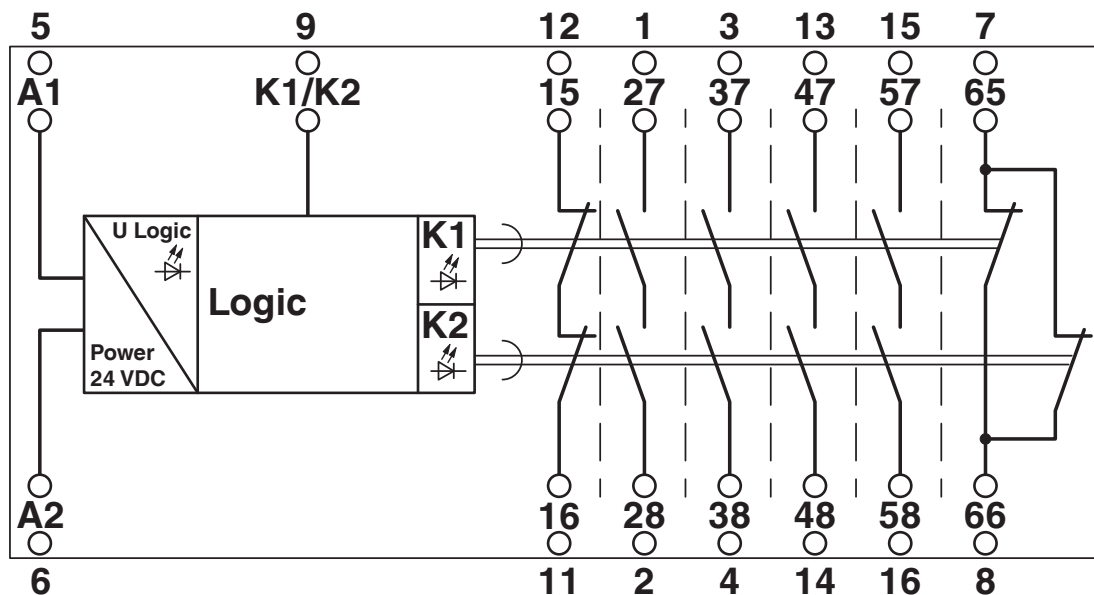
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## Drawings

Circuit diagram



Block diagram



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1397654>



**cULus Listed**

Approval ID: E140324



**Functional Safety**

Approval ID: 4478015124329



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## Classifications

### ECLASS

ECLASS-13.0	27371819
ECLASS-15.0	27371819
ECLASS-15.0 ASSET	27250101

### ETIM

ETIM 10.0	EC001449
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## Environmental product compliance

### EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	34, 7(a), 7(c)-I

### China RoHS

Environment friendly use period (EFUP)	EFUP-50
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

### EU REACH SVHC

REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)
SCIP	967e1333-38e4-463d-884b-216d56534510

### EF3.1 Climate Change

CO2e kg	2.102 kg CO2e
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