

# PSR-M-EF4-SDO4-DO4-SC - Extension module



1104856

<https://www.phoenixcontact.com/us/products/1104856>

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.



Safe extension module with 4 safe outputs (0.4 A), 4 reset inputs, 4 signal outputs, TBUS interface, up to SIL 3, cat. 4/PL e, plug-in screw terminal block, TBUS connector included

## Product description

The configurable and individually scalable PSRmodular safety system is a flexible safety solution for monitoring your machine or system. The safe extension module provides the system additional safe outputs as well as signal outputs.

## Your advantages

- Cost-effective safety solution with a high level of adaptability to individual requirements
- Fast startup, thanks to easy hardware and software configuration
- Machine downtimes minimized with comprehensive, easy-to-understand diagnostics
- Narrow housing width of just 22.6 mm
- Up to Cat. 4/PL e in accordance with ISO 13849-1, SIL 3 in accordance with EN IEC 62061, SIL 3 in accordance with IEC 61508
- Suitable for elevator applications in accordance with EN 81-20

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 1104856       |
| Packing unit                         | 1 pc          |
| Minimum order quantity               | 1 pc          |
| Sales key                            | DN02          |
| Product key                          | DNA362        |
| GTIN                                 | 4055626971056 |
| Weight per piece (including packing) | 192.2 g       |
| Weight per piece (excluding packing) | 159 g         |
| Customs tariff number                | 85371098      |
| Country of origin                    | IT            |

# PSR-M-EF4-SDO4-DO4-SC - Extension module



1104856

<https://www.phoenixcontact.com/us/products/1104856>

## Technical data

### Product properties

|              |               |
|--------------|---------------|
| Product type | Safety device |
| Application  | Safe shutdown |

### Insulation characteristics

|                  |     |
|------------------|-----|
| Protection class | III |
|------------------|-----|

### Times

|               |                       |
|---------------|-----------------------|
| Response time | see user manual       |
| Restart time  | min. 5 s (Boot time)  |
|               | max. 10 s (Boot time) |

### Electrical properties

|   |   |
|---|---|
| Maximum power dissipation for nominal condition | 6.67 W (with max. permissible load)                                     |
| Nominal operating mode                          | 100% operating factor   |
| Interfaces                                      | DIN rail TBUS for connection to the master module, supplied as standard |

### Air clearances and creepage distances between the power circuits

|                                |   |
|--------------------------------|---|
| Rated insulation voltage       | 250 V AC  |
| Rated surge voltage/insulation | Basic insulation 4 kV between 24 V power supply and I/Os to the housing |

### Supply

|  |  |
|--|--|
| Designation                                | A1/A2  |
| Rated control circuit supply voltage $U_S$ | 19.2 V DC ... 28.8 V DC                                  |
| Rated control circuit supply voltage $U_S$ | 24 V DC -20 % / +20 % (external fuse, typically 6 A)     |
| Rated control supply current $I_S$         | typ. 30 mA (Outputs inactive)                            |
|  | typ. 55 mA (Outputs active, without load)                |
| Power consumption at $U_S$                 | typ. 0.72 W (Outputs inactive)                           |
| Inrush current                             | < 10 A ( $\Delta t = 1$ ms at $U_S$ )                    |
| Filter time                                | typ. 5 ms (at A1 in the event of voltage dips at $U_S$ ) |
| Protective circuit                         | Serial protection against polarity reversal              |

### Supply

|  |  |
|--|--|
| Designation                                | 24V/0V   |
| Rated control circuit supply voltage $U_S$ | 24 V DC -20 % / +20 % (provide external protection, typically 5 A) |
| Rated control supply current $I_S$         | See supply A1/A2   |
| Inrush current                             | 10 A ( $\Delta t = 1$ ms at $U_S$ )                                |
| Filter time                                | typ. 1 ms (in the event of voltage dips)                           |
| Protective circuit                         | Serial protection against polarity reversal                        |

## Input data

# PSR-M-EF4-SDO4-DO4-SC - Extension module



1104856

<https://www.phoenixcontact.com/us/products/1104856>

Digital: Reset inputs (FBK1, FBK2, FBK3, FBK4)

|   |   |
|---|---|
| Description of the input                      | IEC 61131-2 type 3  |
| Number of inputs                              | 4   |
| Input voltage range "0" signal                | 0 V DC ... 5 V DC   |
| Input voltage range "1" signal                | 11 V DC ... 28.8 V DC   |
| Input current range "0" signal                | < 1 mA  |
| Filter time                                   | 250 ms ±2 ms (Test pulse rate > 500 ms)   |
| Cable length                                  | max. 100 m (per input)  |
| Max. permissible overall conductor resistance | 1.2 kΩ (Input and reset circuit at U <sub>S</sub> )   |
| Current consumption                           | typ. 10 mA (typically with U <sub>S</sub> )<br>max. 13 mA (at a control voltage of 28.8 V DC) |

## Output data

Digital: O1A, O1B, O2A, O2B, O3A, O3B, O4A, O4B

|                                  |  |
|----------------------------------|--|
| Output description               | Safety-related digital outputs                               |
|                                  | PNP, OSSD  |
|                                  | IEC 61131-2 type 0.5 (observe limiting continuous current)   |
| Number of outputs                | 8 (can be used as 4 two-channel outputs)                     |
| Short-circuit protection         | Yes (self-limitation at 1.1 A)                               |
| Leakage current                  | max. 500 µA  |
| Cable length                     | max. 100 m (per output)                                      |
| Ohmic load                       | min. 50 Ω (Observe limiting continuous current)              |
| Max. capacitive load             | max. 680 nF  |
| Max. inductive load              | max. 1.4 mH  |
| Limiting continuous current      | 400 mA (per channel)   |
|                                  | 3.2 A (Total current of all safe digital outputs)            |
| Inrush current                   | max. 750 mA (Δt ≤ 1 s)                                       |
| Nominal output voltage           | 24 V DC (Supply via A1)                                      |
| Nominal output voltage range     | 18 V DC ... 27.6 V DC (U <sub>S</sub> - 1.2 V)               |
| Switching frequency              | max. 1/4 x t <sub>Cycle</sub> [Hz]                           |
| Output voltage when switched off | < 0.1 V  |
| Test pulses                      | < 80 µs (Test pulse width of low test pulses)                |
|                                  | Test pulse rate for low test pulses > 2 x T <sub>Cycle</sub> |
|                                  | < 20 µs (Test pulse width, high test pulse)                  |
|                                  | ≥ 1.5 s (Test pulse rate, high test pulse)                   |
| Discharging circuit              | Yes, internal  |

Signal: MO1, MO2, MO3, MO4

|                                  |                          |
|----------------------------------|--------------------------|
| Output description               | PNP, IEC 61131-2 Typ 0,1 |
|                                  | non-safety-related       |
|                                  | Reference ground A2/0V   |
| Number of outputs                | 4                        |
| Output voltage when switched off | max. 0.1 V               |

# PSR-M-EF4-SDO4-DO4-SC - Extension module



1104856

<https://www.phoenixcontact.com/us/products/1104856>

|                             |  |
|-----------------------------|--|
| Voltage                     | 24 V DC (via A1)                                     |
| Maximum inrush current      | 1.1 A ( $\Delta t = 3 \text{ s}$ at $U_s$ )          |
| Limiting continuous current | 100 mA (per channel)                                 |
|                             | 400 mA (Total current of all digital signal outputs) |
| Leakage current             | max. 100 $\mu\text{A}$                               |
| Switching frequency         | max. $1/4 \times t_{\text{Cycle}}$ [Hz]              |
| Short-circuit protection    | Yes (self-limitation at 1.1 A)                       |
| Cable length                | max. 100 m (per output)                              |

## Connection data

### Connection technology

|           |     |
|-----------|-----|
| pluggable | yes |
|-----------|-----|

### 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            | 1 x LED (green), 2 x LED (orange) |
|                           | 8 x LED (yellow)                  |
|                           | 4 x LED (green, red)              |
| Operating voltage display | 1 x green LED                     |
| Error indication          | 2 x LED (red)                     |

## Dimensions

|        |           |
|--------|-----------|
| Width  | 22.61 mm  |
| Height | 112.58 mm |
| Depth  | 113.6 mm  |

## Material specifications

|                  |                             |
|------------------|-----------------------------|
| Color (Housing)  | yellow (RAL 1018)           |
| Housing material | Polyamide PA non-reinforced |

## Characteristics

### Safety data

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

### Safety data: EN ISO 13849

|                        |                      |
|------------------------|----------------------|
| Performance level (PL) | e (2-channel wiring) |
|                        | d (1-channel wiring) |

# PSR-M-EF4-SDO4-DO4-SC - Extension module



1104856

<https://www.phoenixcontact.com/us/products/1104856>

Safety data: IEC 61508 - High-demand for 2-channel wiring

|                              |   |
|------------------------------|---|
| Safety Integrity Level (SIL) | 3 |
|------------------------------|---|

Safety data: IEC 61508 - High-demand for 1-channel wiring

|                              |   |
|------------------------------|---|
| Safety Integrity Level (SIL) | 2 |
|------------------------------|---|

Safety data: EN IEC 62061

|                              |                      |
|------------------------------|----------------------|
| Safety Integrity Level (SIL) | 3 (2-channel wiring) |
|                              | 2 (1-channel wiring) |

## Environmental and real-life conditions

Ambient conditions

|  |  |
|--|--|
| Degree of protection                           | IP20   |
| Min. degree of protection of inst. location    | IP54   |
| Ambient temperature (operation)                | -10 °C ... 55 °C (observe derating)  |
| Ambient temperature (storage/transport)        | -20 °C ... 85 °C   |
| Maximum altitude                               | ≤ 2000 m (Above sea level)   |
| Max. permissible humidity (storage/transport)  | 95 % (non-condensing)  |
| Max. permissible relative humidity (operation) | 95 % (non-condensing)  |
| Shock  | 10g for $\Delta t = 16$ ms (continuous shock, 1000 shocks in each space direction) |
| Vibration (operation)                          | 10 Hz ... 150 Hz, 2g   |

## Approvals

CE

|                |              |
|----------------|--------------|
| Identification | CE-compliant |
|----------------|--------------|

## Mounting

|                   |                        |
|-------------------|------------------------|
| Mounting type     | DIN rail mounting      |
| Assembly note     | Observe derating       |
| Mounting position | vertical or horizontal |

# PSR-M-EF4-SDO4-DO4-SC - Extension module

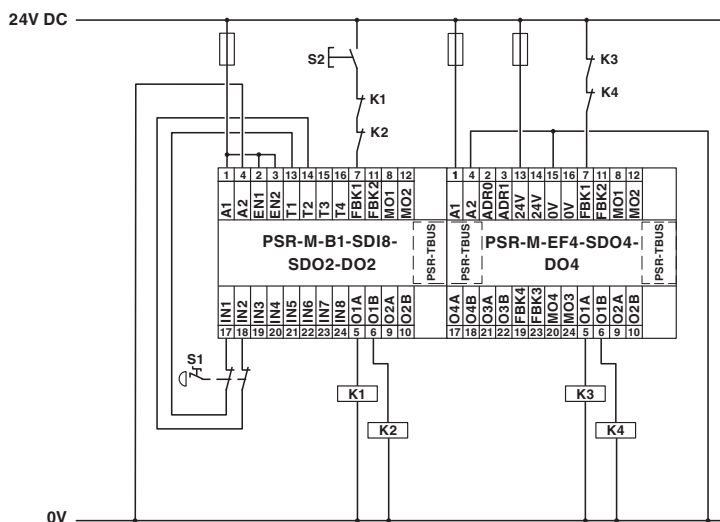


1104856

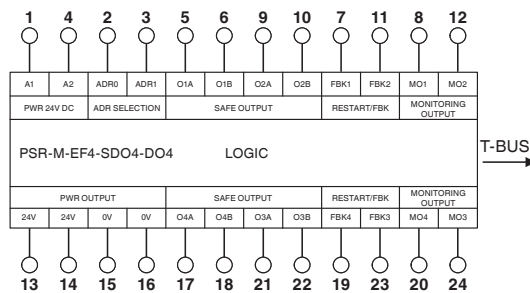
<https://www.phoenixcontact.com/us/products/1104856>

## Drawings

### Application drawing



### Block diagram



Block diagram

# PSR-M-EF4-SDO4-DO4-SC - Extension module



1104856

<https://www.phoenixcontact.com/us/products/1104856>

## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1104856>



### UL Listed

Approval ID: FILE E 238705



### cUL Listed

Approval ID: FILE E 238705



### EAC

Approval ID: RU\*-DE\*B.00606/20



### Functional Safety

Approval ID: Z10 029429 0013

### cULus Listed

# PSR-M-EF4-SDO4-DO4-SC - Extension module



1104856

<https://www.phoenixcontact.com/us/products/1104856>

## 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-M-EF4-SDO4-DO4-SC - Extension module



1104856

<https://www.phoenixcontact.com/us/products/1104856>

## Environmental product compliance

### EU RoHS

|   |                    |
|---|--------------------|
| Fulfills EU RoHS substance requirements | Yes, No exemptions |
|---|--------------------|

### China RoHS

|  |  |
|--|--|
| Environment friendly use period (EFUP) | EFUP-E                                   |
|  | No hazardous substances above the limits |

### EU REACH SVHC

|                                     |                            |
|-------------------------------------|----------------------------|
| REACH candidate substance (CAS No.) | No substance above 0.1 wt% |
|-------------------------------------|----------------------------|

# PSR-M-EF4-SDO4-DO4-SC - Extension module



1104856

<https://www.phoenixcontact.com/us/products/1104856>

## Accessories

### CP-MSTB - Coding profile

1734634

<https://www.phoenixcontact.com/us/products/1734634>

Coding profile, is inserted into the slot on the plug or inverted header, red insulating material



---

### CR-MSTB - Coding section

1734401

<https://www.phoenixcontact.com/us/products/1734401>

Coding section, inserted into the recess in the header or the inverted plug, red insulating material



# PSR-M-EF4-SDO4-DO4-SC - Extension module



1104856

<https://www.phoenixcontact.com/us/products/1104856>

## CRIMPFOX 6 - Crimping pliers

1212034

<https://www.phoenixcontact.com/us/products/1212034>



Crimping pliers, for ferrules without insulating collar according to DIN 46228 Part 1 and ferrules with insulating collar according to DIN 46228 Part 4, 0.25 mm<sup>2</sup> ... 6.0 mm<sup>2</sup>, lateral entry, trapezoidal crimp

---

Phoenix Contact 2024 © - all rights reserved

<https://www.phoenixcontact.com>

Phoenix Contact USA  
586 Fulling Mill Road  
Middletown, PA 17057, United States  
(+717) 944-1300  
[info@phoenixcon.com](mailto:info@phoenixcon.com)