

# PSR-MC82-5NO-1NC-1DO-24DC-SP - Extension module



2702383

<https://www.phoenixcontact.com/us/products/2702383>

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Contact extension up to SIL 3, Cat. 4, PL e in conjunction with suitable evaluation device, 5 enabling current paths,  $U_S = 24 \text{ V DC}$ , pluggable Push-in terminal block

## Your advantages

- Up to Cat. 4/PL e in accordance with ISO 13849-1, SIL 3 in accordance with EN IEC 62061 in conjunction with suitable evaluation device
- Low housing width of just 17.5 mm
- 1- and 2-channel control
- 5 enabling current paths, 1 confirmation current path, 1 digital signal output
- Automatic activation

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 2702383       |
| Packing unit                         | 1 pc          |
| Minimum order quantity               | 1 pc          |
| Sales key                            | DN01          |
| Product key                          | DNA181        |
| GTIN                                 | 4055626145488 |
| Weight per piece (including packing) | 205.3 g       |
| Weight per piece (excluding packing) | 210.1 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 |
|---------------------|-------------------------|

### Product properties

|                |                                                                                      |
|----------------|--------------------------------------------------------------------------------------|
| Product type   | Safety relays                                                                        |
| Product family | PSRmini                                                                              |
| Application    | Extension module                                                                     |
| Control        | 1 and 2 channel                                                                      |
| 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         | < 50 ms (Monitored/manual and auto-start) |
| Typ. starting time with $U_S$ | < 50 ms (when controlled via A1/A2)       |
| Typical release time          | < 25 ms (when controlled via A1/A2)       |
| Recovery time                 | < 100 ms                                  |

### Electrical properties

|                                                 |                                                        |
|-------------------------------------------------|--------------------------------------------------------|
| Maximum power dissipation for nominal condition | 15.2 W (at $U_S = 30$ V, $I_L^2 = 64$ A <sup>2</sup> ) |
| Nominal operating mode                          | 100% operating factor                                  |
| Rated insulation voltage                        | 250 V AC                                               |

#### Supply

|                                            |                                                                                                                                                                                                                                                                                                                                                                                                           |
|--------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Designation                                | A1/A2                                                                                                                                                                                                                                                                                                                                                                                                     |
| Rated control circuit supply voltage $U_S$ | 19.2 V DC ... 30 V DC                                                                                                                                                                                                                                                                                                                                                                                     |
| Rated control circuit supply voltage $U_S$ | 24 V DC -20 % / +25 %                                                                                                                                                                                                                                                                                                                                                                                     |
| Rated control supply current $I_S$         | typ. 80 mA                                                                                                                                                                                                                                                                                                                                                                                                |
| Power consumption at $U_S$                 | typ. 1.92 W                                                                                                                                                                                                                                                                                                                                                                                               |
| Inrush current                             | typ. 125 mA ( $\Delta t = 7$ ms at $U_S$ )                                                                                                                                                                                                                                                                                                                                                                |
| Filter time                                | 4 ms (at A1 in the event of voltage dips at $U_S$ )<br>max. 1 ms (at A1/A2, test pulse width, blanking pulses/dark test)<br>5 ms (at A1/A2, test pulse rate, blanking pulses/dark test)<br>Where test pulse width < 1 ms: test pulse rate = 5 x test pulse width<br>max. 1 ms (at A1/A2, test pulse width, switch-on pulses/light test)<br>10 ms (at A1/A2; test pulse rate; switch-on pulses/light test) |
| Protective circuit                         | Surge protection; Suppressor diode<br>Reverse polarity protection; Universal diode                                                                                                                                                                                                                                                                                                                        |

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## Output data

Relay: Enabling current paths (23/24 ... 63/64)

|                             |                                                                                                                                         |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Output description          | safety-related N/O contacts                                                                                                             |
| Number of outputs           | 5 (undelayed)                                                                                                                           |
| Contact switching type      | 5 enabling current paths                                                                                                                |
| Contact material            | AgSnO <sub>2</sub>                                                                                                                      |
| Switching voltage           | min. 5 V AC/DC<br>max. 24 V DC (Enabling current path 23/24)<br>max. 250 V AC/DC (all other enabling current paths, observe load curve) |
| Switching power             | min. 50 mW (5 V / 10 mA)                                                                                                                |
| Inrush current              | min. 10 mA<br>max. 20 A (≤ 100 ms)                                                                                                      |
| Switching capacity          | 3 A (24 V (DC13))<br>3 A (250 V (AC15))                                                                                                 |
| Limiting continuous current | 6 A (observe derating)                                                                                                                  |
| Sq. Total current           | 64 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<br>6 A gL/gG (for low-demand applications)                                                                                   |

Relay: Confirmation current path (11/12)

|                             |                                |
|-----------------------------|--------------------------------|
| Output description          | Safety-related N/C contacts    |
| Number of outputs           | 1 (undelayed)                  |
| Contact switching type      | 1 confirmation current path    |
| Contact material            | AgSnO                          |
| Switching voltage           | min. 5 V AC/DC<br>max. 24 V DC |
| Switching power             | min. 50 mW                     |
| Inrush current              | min. 10 mA<br>max. 100 mA      |
| Limiting continuous current | 100 mA                         |
| Switching frequency         | max. 0.5 Hz                    |
| Mechanical service life     | 10x 10 <sup>6</sup> cycles     |
| Output fuse                 | 1 A gL/gG                      |

Signal: M1

|                          |                                       |
|--------------------------|---------------------------------------|
| Output description       | non-safety-related                    |
| Number of outputs        | 1 (digital, PNP)                      |
| Voltage                  | typ. 23 V DC (U <sub>S</sub> - 1 V)   |
| Current                  | max. 100 mA                           |
| Maximum inrush current   | 500 mA (Δt = 1 ms at U <sub>S</sub> ) |
| Short-circuit protection | Yes                                   |

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## Connection data

### Connection technology

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

### Conductor connection

|                                                                         |                                                                              |
|-------------------------------------------------------------------------|------------------------------------------------------------------------------|
| Connection method                                                       | Push-in connection                                                           |
| Conductor cross-section rigid                                           | 0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>                                  |
| Conductor cross-section flexible                                        | 0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>                                  |
| Conductor cross-section, flexible, with ferrule, with plastic sleeve    | 0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> (only together with CRIMPFOX 6) |
| Conductor cross-section, flexible, with ferrule, without plastic sleeve | 0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> (only together with CRIMPFOX 6) |
| Conductor cross-section AWG                                             | 24 ... 16                                                                    |
| Stripping length                                                        | 8 mm                                                                         |

## Signaling

|                |                 |
|----------------|-----------------|
| Status display | 2 x LED (green) |
|----------------|-----------------|

## Dimensions

|        |          |
|--------|----------|
| Width  | 17.5 mm  |
| Height | 116.6 mm |
| Depth  | 114.5 mm |

## Material specifications

|                  |                   |
|------------------|-------------------|
| Color (Housing)  | yellow (RAL 1018) |
| Housing material | PA                |

## Characteristics

### Safety data

|                            |   |
|----------------------------|---|
| Stop category (EN 60204-1) | 0 |
|----------------------------|---|

### Safety data: EN ISO 13849

|                        |                                                    |
|------------------------|----------------------------------------------------|
| Performance level (PL) | e (In conjunction with suitable evaluating device) |
|------------------------|----------------------------------------------------|

### Safety data: IEC 61508 - High demand

|                              |                                                    |
|------------------------------|----------------------------------------------------|
| Safety Integrity Level (SIL) | 3 (In conjunction with suitable evaluating device) |
|------------------------------|----------------------------------------------------|

### Safety data: IEC 61508 - Low demand

|                              |                                                    |
|------------------------------|----------------------------------------------------|
| Safety Integrity Level (SIL) | 3 (In conjunction with suitable evaluating device) |
|------------------------------|----------------------------------------------------|

### Safety data: EN IEC 62061

|                              |                                                    |
|------------------------------|----------------------------------------------------|
| Safety Integrity Level (SIL) | 3 (In conjunction with suitable evaluating device) |
|------------------------------|----------------------------------------------------|

## Environmental and real-life conditions

### Ambient conditions

|                      |      |
|----------------------|------|
| Degree of protection | IP20 |
|----------------------|------|

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|                                                |                                                                                                                   |
|------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| Min. degree of protection of inst. location    | IP54                                                                                                              |
| Ambient temperature (operation)                | -20 °C ... 60 °C (observe derating)                                                                               |
| Ambient temperature (storage/transport)        | -40 °C ... 80 °C                                                                                                  |
| Maximum altitude                               | max. 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 (In the event of stress caused by shock, contact reactions are possible for up to 6 ms.)                      |
| Vibration (operation)                          | 10 Hz ... 150 Hz, 2g (In the event of stress caused by vibration, contact reactions are possible for up to 1 ms.) |

## Approvals

CE

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

## Mounting

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

# PSR-MC82-5NO-1NC-1DO-24DC-SP - Extension module

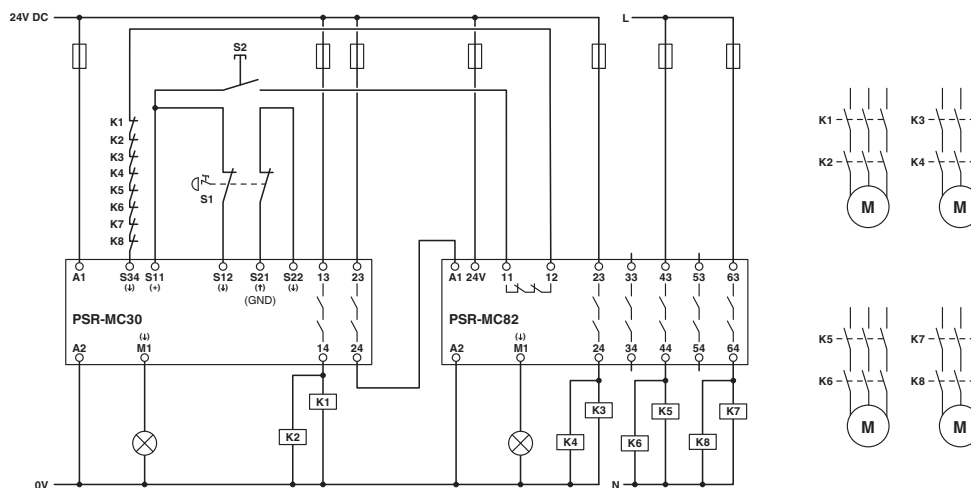


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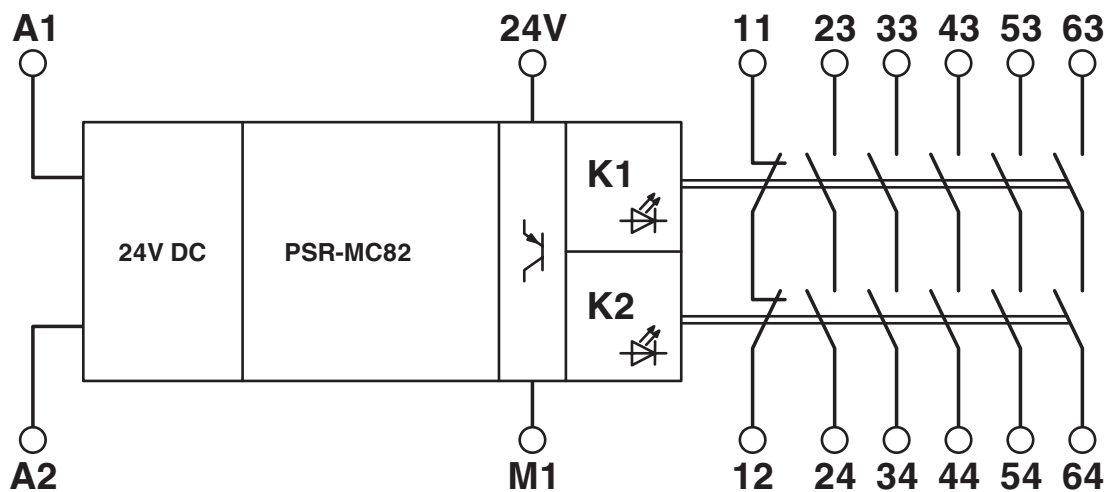
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## Drawings

Circuit diagram



Block diagram



Block diagram

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2702383>



### Functional Safety

Approval ID: 44 205 15124303



### Functional Safety

Approval ID: 4478015124303



### cULus Listed

Approval ID: E140324

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## Classifications

### ECLASS

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

### ETIM

|           |          |
|-----------|----------|
| ETIM 10.0 | EC001449 |
|-----------|----------|

### UNSPSC

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

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## Environmental product compliance

### EU RoHS

|                                         |              |
|-----------------------------------------|--------------|
| Fulfills EU RoHS substance requirements | Yes          |
| Exemption                               | 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                                | 86f7cbf8-6903-49c5-b7cc-68930eb09995 |

### EF3.1 Climate Change

|         |               |
|---------|---------------|
| CO2e kg | 5.672 kg CO2e |
|---------|---------------|

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