

# PLC-OSP- 72DC/110DC/ 3RW - Solid-state relay module



2982540

<https://www.phoenixcontact.com/us/products/2982540>

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PLC-INTERFACE for railway applications, consisting of basic terminal block with spring-cage connection and integrated miniature solid-state relay, range:  $0.7 \times U_N$  to  $1.25 \times U_N$ , temperature range:  $-25^\circ\text{C}$  to  $+70^\circ\text{C}$ , 1 N/O contact, input: 72 V DC, output: 12 - 140 V DC/3 A

## Your advantages

- Shock resistance in accordance with DIN 50155 (requirements in accordance with EN 61373)
- Input voltage range of  $0.7 - 1.25 \times U_N$
- Temperature range:  $-25^\circ\text{C} \dots +70^\circ\text{C}$

## Commercial data

|                                      |                                |
|--------------------------------------|--------------------------------|
| Item number                          | 2982540                        |
| Packing unit                         | 1 pc                           |
| Note                                 | Made to order (non-returnable) |
| Sales key                            | C461                           |
| Product key                          | DK6223                         |
| GTIN                                 | 4046356082600                  |
| Weight per piece (including packing) | 34.63 g                        |
| Weight per piece (excluding packing) | 32.98 g                        |
| Customs tariff number                | 85364900                       |
| Country of origin                    | DE                             |

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## Technical data

### Product properties

|                |                          |
|----------------|--------------------------|
| Product type   | Solid-state relay module |
| Product family | PLC-INTERFACE            |
| Application    | Railway applications     |
| Operating mode | 100% operating factor    |

Insulation characteristics: Air clearances and creepage distances between the power circuits

|                      |                  |
|----------------------|------------------|
| Insulation           | Basic insulation |
| Overvoltage category | III              |
| Pollution degree     | 2                |

Data management status

|                              |            |
|------------------------------|------------|
| Date of last data management | 15.09.2025 |
|------------------------------|------------|

### Electrical properties

|   |                                      |
|---|--------------------------------------|
| Maximum power dissipation for nominal condition | 0.4 W                                |
| Test voltage (Input/output)                     | 2.5 kV <sub>rms</sub> (Input/output) |

Air clearances and creepage distances between the power circuits

|                          |          |
|--------------------------|----------|
| Rated insulation voltage | 160 V DC |
| Rated surge voltage      | 4 kV     |

### Input data

|  |   |
|--|---|
| Nominal input voltage $U_N$                          | 72 V DC   |
| Input voltage range in reference to $U_N$            | 0.7 ... 1.25 ( $t < 1$ s = 0.6 ... 1.4 x $U_N$ )              |
| Input voltage range                                  | 50.4 V DC ... 90 V DC   |
| Switching threshold "0" signal in reference to $U_N$ | < 0.3   |
| Switching threshold "1" signal in reference to $U_N$ | > 0.6   |
| Typical input current at $U_N$                       | 5.5 mA  |
| Typical response time                                | 40 $\mu$ s  |
| Typical turn-off time                                | 200 $\mu$ s   |
| Operating voltage display                            | Yellow LED  |
| Protective circuit                                   | Reverse polarity protection; Series polarity protection diode |
|  | Surge protection  |
| Surge voltage protection                             | > 150 V   |
| Transmission frequency                               | 300 Hz  |

### Output data

|                             |   |
|-----------------------------|---|
| Contact switching type      | 1 N/O contact                                     |
| Design of digital output    | electronic  |
| Output nominal voltage      | 110 V DC  |
| Output voltage range        | 12 V DC ... 140 V DC ( $t < 1$ s = 1.40 x $U_N$ ) |
| Limiting continuous current | 3 A (see derating curve)                          |

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|  |   |
|--|---|
| Surge voltage protection                         | > 150 V   |
| Voltage drop at max. limiting continuous current | < 150 mV  |
| Output circuit                                   | 2-conductor, floating   |
| Protective circuit                               | Reverse polarity protection; Parallel polarity protection diode<br>Surge protection |

## Connection data

### Input side

|                                  |  |
|----------------------------------|--|
| Connection method                | Spring-cage connection                       |
| Stripping length                 | 8 mm   |
| Conductor cross-section rigid    | 0.14 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> |
| Conductor cross-section flexible | 0.14 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> |
| Conductor cross-section AWG      | 26 ... 14                                    |

### Output side

|                                  |  |
|----------------------------------|--|
| Connection method                | Spring-cage connection                       |
| Stripping length                 | 8 mm   |
| Conductor cross-section rigid    | 0.14 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> |
| Conductor cross-section flexible | 0.14 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> |
| Conductor cross-section AWG      | 26 ... 14                                    |

## Dimensions

|        |        |
|--------|--------|
| Width  | 6.2 mm |
| Height | 80 mm  |
| Depth  | 86 mm  |

## Material specifications

|       |                  |
|-------|------------------|
| Color | green (RAL 6021) |
|-------|------------------|

## Environmental and real-life conditions

### Ambient conditions

|   |                  |
|---|------------------|
| Degree of protection                    | IP20             |
| Ambient temperature (operation)         | -25 °C ... 70 °C |
| Ambient temperature (storage/transport) | -40 °C ... 85 °C |

## Standards and regulations

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

|                       |                       |
|-----------------------|-----------------------|
| Standards/regulations | IEC 60664<br>EN 50178 |
|-----------------------|-----------------------|

## Mounting

|                   |                           |
|-------------------|---------------------------|
| Mounting type     | DIN rail mounting         |
| Assembly note     | in rows with zero spacing |
| Mounting position | any                       |

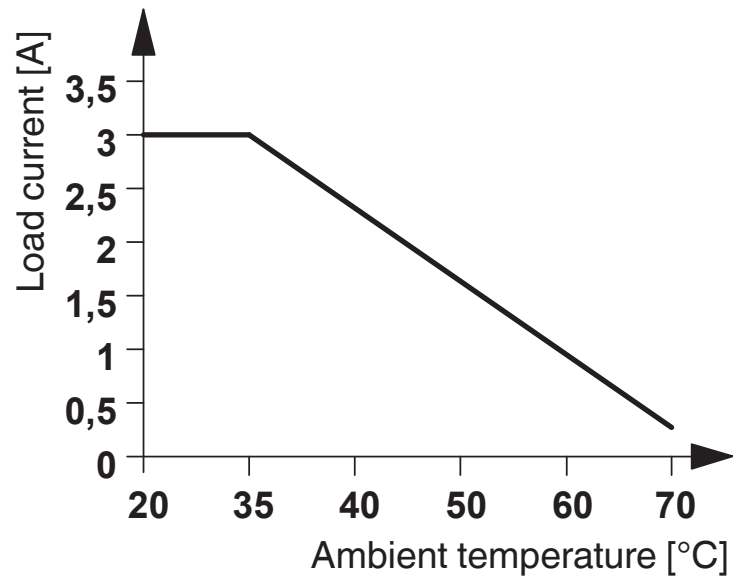
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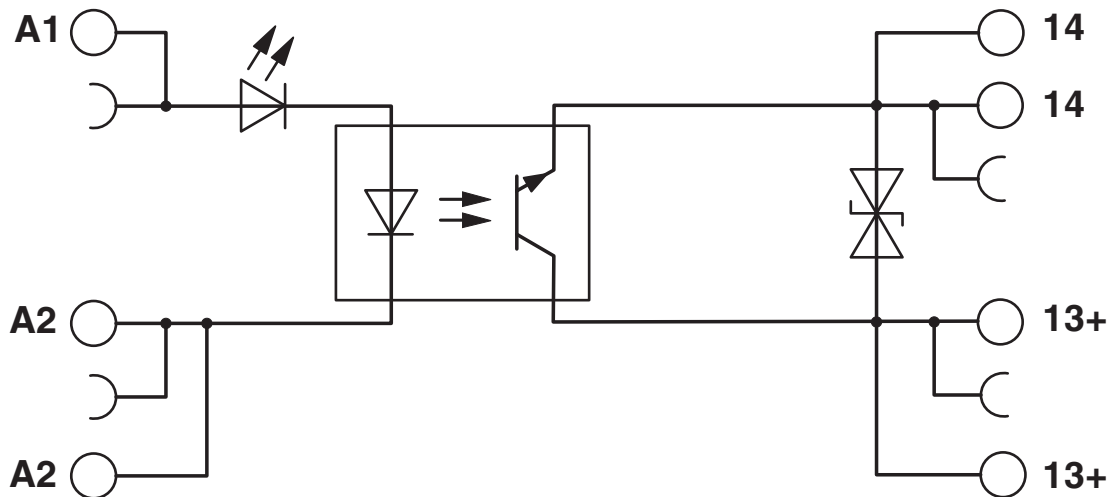
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## Drawings

Diagram



Circuit diagram



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## Environmental product compliance

### China RoHS

|  |  |
|--|--|
| Environment friendly use period (EFUP) | EFUP-50<br>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.) | No substance above 0.1 wt% |
|-------------------------------------|----------------------------|

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