# PLC-OSP- 24DC/110DC/ 3RW - Solid-state relay module

2982511

https://www.phoenixcontact.com/us/products/2982511

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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 x $U_N$ to 1.25 x $U_N$, temperature range: -25°C to +70°C, 1 N/O contact, input: 24 V DC, output: 12 - 140 V DC/3 A

## Your advantages

• Shock resistance in accordance with DIN 50155 (requirements in accordance with EN 61373)

• Temperature range: -25 °C ... +70 °C

• Input voltage range of 0.7 - 1.25 x UN

## Commercial data

| Item number | 2982511 |
|---|---|
| Packing unit | 1 pc |
| Note | Made to order (non-returnable) |
| Sales key | C461 |
| Product key | CK6223 |
| Catalog page | Page 415 (C-5-2017) |
| GTIN | 4046356094504 |
| Weight per piece (including packing) | 35.13 g |
| Weight per piece (excluding packing) | 32.86 g |
| Customs tariff number | 85364190 |
| 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 |

### Data management status

| | |
|---|---|
| Date of last data management | 07.05.2024 |
| Article revision | 04 |

### Insulation characteristics

| | |
|---|---|
| Insulation | Basic insulation |

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

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

### Electrical properties

| | |
|---|---|
| Maximum power dissipation for nominal condition | 0.29 W |
| Test voltage (Input/output) | 2.5 kV$_{rms}$ (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 $U_N$ | 24 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 | 16.8 V DC ... 30 V DC |
| Switching threshold "0" signal in reference to $U_N$ | < 0.4 |
| Switching threshold "1" signal in reference to $U_N$ | > 0.6 |
| Typical input current at $U_N$ | 12 mA |
| Typical response time | 400 µs |
| Typical turn-off time | 200 µs |
| Operating voltage display | Yellow LED |
| Protective circuit | Reverse polarity protection; Series polarity protection diode |
| | Surge protection |
| Surge voltage protection | > 150 V |
| Transmission frequency | 50 Hz |

### Output data

| | |
|---|---|
| Contact switching type | 1 N/O contact |

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| | |
|---|---|
| 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) |
| 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 |
| | Surge protection |

## Connection data

### Input side

| | |
|---|---|
| Connection method | Spring-cage connection |
| Stripping length | 8 mm |
| Conductor cross section rigid | 0.14 mm² ... 2.5 mm² |
| Conductor cross section flexible | 0.14 mm² ... 2.5 mm² |
| Conductor cross section AWG | 26 ... 14 |

### Output side

| | |
|---|---|
| Connection method | Spring-cage connection |
| Stripping length | 8 mm |
| Conductor cross section rigid | 0.14 mm² ... 2.5 mm² |
| Conductor cross section flexible | 0.14 mm² ... 2.5 mm² |
| Conductor cross section AWG | 26 ... 14 |

## Dimensions

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

## Material specifications

| | |
|---|---|
| Color | green (RAL 6021) |
| Flammability rating according to UL 94 | V0 (Housing) |

## 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 |
| | EN 50178 |

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## Mounting

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

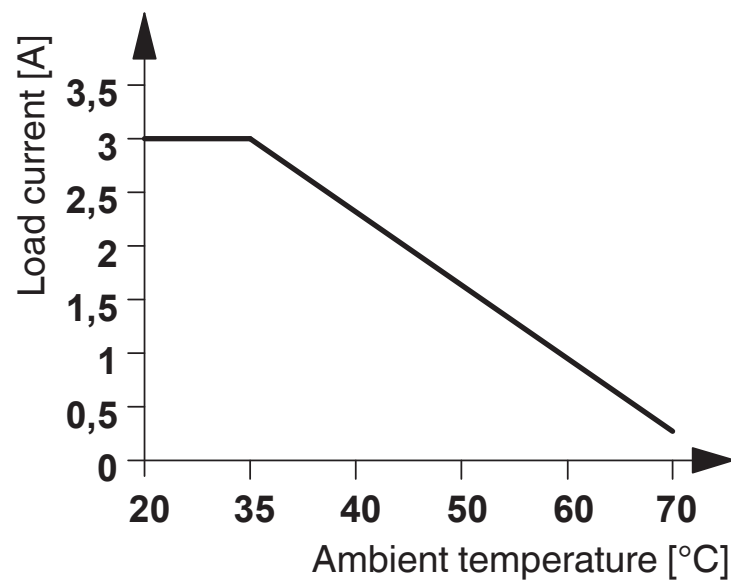# PLC-OSP- 24DC/110DC/ 3RW - Solid-state relay module

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## Drawings

### Circuit diagram
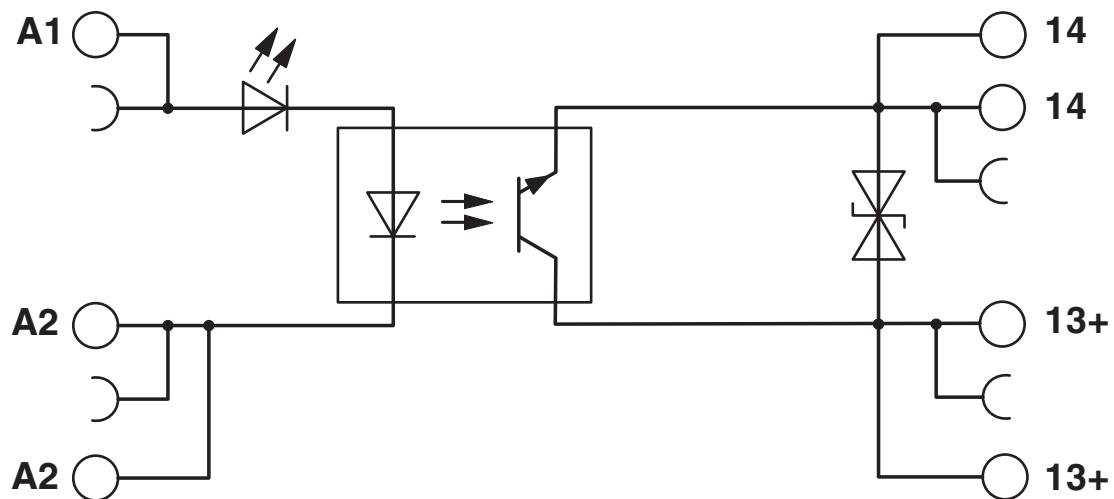


### Diagram

# PLC-OSP- 24DC/110DC/ 3RW - Solid-state relay module

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## Classifications

### ECLASS

| | |
|---|---|
| ECLASS-11.0 | 27371604 |

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## Environmental product compliance

### 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.) | No substance above 0.1 wt% |
|---|---|

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## Accessories

> ℹ️  Note: Applying some accessories below might limit this product.

### FBST 500-PLC RD - Continuous plug-in bridge

2966786
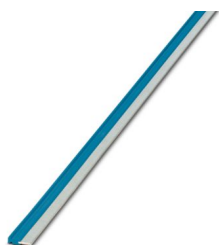
https://www.phoenixcontact.com/us/products/2966786

Continuous plug-in bridge, length: 500 mm, color: red

ℹ️ Max. current carrying capacity: 32 A

### FBST 500-PLC BU - Continuous plug-in bridge

2966692

https://www.phoenixcontact.com/us/products/2966692

Continuous plug-in bridge, length: 500 mm, color: blue

ℹ️ Max. current carrying capacity: 32 A

# PLC-OSP- 24DC/110DC/ 3RW - Solid-state relay module

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## FBST 500-PLC GY - Continuous plug-in bridge

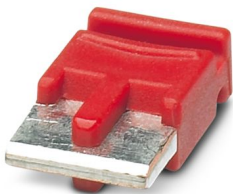2966838

https://www.phoenixcontact.com/us/products/2966838

Continuous plug-in bridge, length: 500 mm, color: gray

ⓘ Max. current carrying capacity: 32 A

## FBST  6-PLC RD - Single plug-in bridge

2966236

https://www.phoenixcontact.com/us/products/2966236

Single plug-in bridge, number of positions: 2, length: 6 mm, color: red

ⓘ Max. current carrying capacity: 6 A

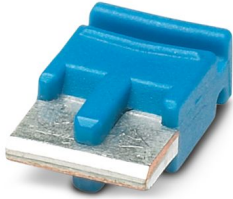# PLC-OSP- 24DC/110DC/ 3RW - Solid-state relay module

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## FBST   6-PLC BU - Single plug-in bridge

2966812

https://www.phoenixcontact.com/us/products/2966812

Single plug-in bridge, number of positions: 2, length: 6 mm, color: blue

ⓘ Max. current carrying capacity: 6 A

## FBST   6-PLC GY - Single plug-in bridge

2966825

https://www.phoenixcontact.com/us/products/2966825

Single plug-in bridge, number of positions: 2, length: 6 mm, color: gray
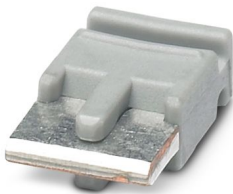
ⓘ Max. current carrying capacity: 6 A

# PLC-OSP- 24DC/110DC/ 3RW - Solid-state relay module

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## FBST   8-PLC GY - Single plug-in bridge

2967688

https://www.phoenixcontact.com/us/products/2967688

Single plug-in bridge, number of positions: 2, length: 8 mm, color: gray

ⓘ Max. current carrying capacity: 6 A

## NS 35/ 7,5 V2A UNPERF 2000MM - DIN rail, unperforated

0801377

https://www.phoenixcontact.com/us/products/0801377

DIN rail, unperforated, Pack of 25 (50 m), acc. to EN 60715, material: Stainless steel V2A, uncoated, Standard profile, color: silver

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## NS 35/ 7,5 PERF 2000MM - DIN rail perforated

0801733

https://www.phoenixcontact.com/us/products/0801733

DIN rail perforated, Pack of 25 (50 m), acc. to EN 60715, material: Steel, galvanized, passivated with a thick layer, Standard profile, color: silver

## NS 35/ 7,5 CU UNPERF 2000MM-VPE 10 - DIN rail, unperforated

0801762

https://www.phoenixcontact.com/us/products/0801762

DIN rail, unperforated, Pack of 10 (20 m), acc. to EN 60715, material: Copper, uncoated, Standard profile, color: copper-colored

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## NS 35/15 UNPERF 2000MM - DIN rail, unperforated

1201714

https://www.phoenixcontact.com/us/products/1201714

DIN rail, unperforated, Pack of 25 (50 m), similar to EN 60715, material: Steel, galvanized, passivated with a thick layer, Standard profile, color: silver

## NS 35/15 CU UNPERF 2000MM-VPE 10 - DIN rail, unperforated

1201895

https://www.phoenixcontact.com/us/products/1201895

DIN rail, unperforated, Pack of 10 (20 m), similar to EN 60715, material: Copper, uncoated, Standard profile, color: copper-colored

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## NS 35/15-2,3 UNPERF 2000MM-VPE 10 - DIN rail, unperforated

1201798

https://www.phoenixcontact.com/us/products/1201798

DIN rail, unperforated, Pack of 10 (20 m), acc. to EN 60715, material: Steel, galvanized, passivated with a thick layer, Standard profile 2.3 mm, color: silver

## NS 35/15 AL UNPERF 2000MM - DIN rail, unperforated

1201756

https://www.phoenixcontact.com/us/products/1201756

DIN rail, unperforated, similar to EN 60715, material: Aluminum, uncoated, Standard profile, color: silver

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## NS 35/15 PERF 2000MM - DIN rail perforated

1201730

https://www.phoenixcontact.com/us/products/1201730

DIN rail perforated, Pack of 25 (50 m), similar to EN 60715, material: Steel, galvanized, passivated with a thick layer, Standard profile, color: silver

## NS 35/ 7,5 UNPERF 2000MM - DIN rail, unperforated

0801681

https://www.phoenixcontact.com/us/products/0801681

DIN rail, unperforated, Pack of 25 (50 m), acc. to EN 60715, material: Steel, galvanized, passivated with a thick layer, Standard profile, color: silver

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## PLC-ESK GY - Power terminal block

2966508

https://www.phoenixcontact.com/us/products/2966508

Power terminal block, for the input of up to four potentials, for mounting on NS 35/7.5

## PLC-ATP BK - Separating plate

2966841

https://www.phoenixcontact.com/us/products/2966841

Separating plate, 2 mm thick, required at the start and end of a PLC terminal strip. Furthermore, it is used for: visual separation of groups, safe isolation of different voltages of neighboring PLC relays in acc. with DIN VDE 0106-101, isolation

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## SZF 1-0,6X3,5 - Screwdriver

1204517

https://www.phoenixcontact.com/us/products/1204517

Actuation tool, for ST terminal blocks, also suitable for use as a bladed screwdriver, size: 0.6 x 3.5 x 100 mm, 2-component grip, with non-slip grip

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