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

2980610

https://www.phoenixcontact.com/us/products/2980610

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PLC-INTERFACE for railway applications, consisting of basic terminal block with screw 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: 3 - 33 V DC/3 A

## Commercial data

| | |
|---|---|
| Item number | 2980610 |
| Packing unit | 10 pc |
| Minimum order quantity | 10 pc |
| Sales key | C461 |
| Product key | CK622L |
| GTIN | 4046356094542 |
| Weight per piece (including packing) | 34.81 g |
| Weight per piece (excluding packing) | 32.97 g |
| Customs tariff number | 85364190 |
| Country of origin | DE |

# Technical data

## Product properties

| | |
|---|---|
| Product type | Solid-state relay module |
| Product family | PLC-INTERFACE |
| Application | Railway applications |

Insulation characteristics: Standards/regulations

| | |
|---|---|
| Overvoltage category | III |
| Pollution degree | 2 |

## Electrical properties

| | |
|---|---|
| Maximum power dissipation for nominal condition | 0.2 W |

## Input data

| | |
|---|---|
| Nominal input voltage $U_N$ | 24 V DC |
| Input voltage range in reference to $U_N$ | 0.7 ... 1.25 |
| Input voltage range | 16.8 V DC ... 30 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 $U_N$ | 8.5 mA |
| Typical response time | 40 µs |
| Typical turn-off time | 200 µs |
| Status display | Yellow LED |
| Protective circuit | Reverse polarity protection; Polarity protection diode |
| Transmission frequency | 300 Hz |

## Output data

| | |
|---|---|
| Contact switching type | 1 N/O contact |
| Design of digital output | electronic |
| Output voltage range | 3 V DC ... 33 V DC |
| Limiting continuous current | 3 A |
| Voltage drop at max. limiting continuous current | ≤ 200 mV |
| Output circuit | 2-conductor, floating |
| Protective circuit | Reverse polarity protection; Polarity protection diode |
| | Surge protection |

## Connection data

| | |
|---|---|
| Connection method | Screw connection |
| Stripping length | 8 mm |
| Screw thread | M3 |
| Conductor cross section rigid | 0.14 mm² ... 2.5 mm² |
| Conductor cross section flexible | 0.14 mm² ... 2.5 mm² |
| | 0.2 mm² ... 2.5 mm² (Single ferrule) |

| | |
|---|---|
| | 2x 0.5 mm² ... 1.5 mm² (TWIN ferrule) |
| Conductor cross section AWG | 26 ... 14 |
| Tightening torque | 0.45 Nm ... 0.55 Nm (Usually these terminal blocks must be supported during conductor connection (held by one hand, supported on the housing)) |

## Dimensions

| | |
|---|---|
| Width | 6.2 mm |
| Height | 80 mm |
| Depth | 95 mm |

## Material specifications

| | |
|---|---|
| Color | gray (RAL 7042) |
| Flammability rating according to UL 94 | V0 (Housing) |

## Environmental and real-life conditions

### Ambient conditions

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

## Approvals

### CE

| | |
|---|---|
| Certificate | CE-compliant |

### UKCA

| | |
|---|---|
| Certificate | UKCA-compliant |

### Shipbuilding approval

| | |
|---|---|
| Certificate | TAE0000196 |

### Corrosive gas test

| | |
|---|---|
| Identification | ISA-S71.04. G3 Harsh Group |
| | EN 60068-2-60 |

### DNV GL data

| | |
|---|---|
| Temperature | D |
| Humidity | A |
| Vibration | B/C |
| EMC | B |
| Enclosure | Required protection according to the Rules shall be provided upon installation on board |

## EMC data

| | |
|---|---|
| Low Voltage Directive | Conformance with Low Voltage Directive |
| Electromagnetic compatibility | Conformance with EMC directive |

## Standards and regulations

Standards/regulations

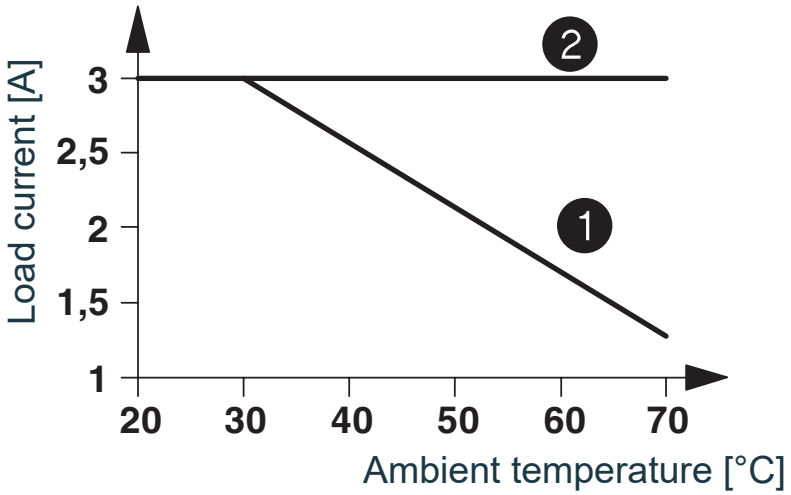
| | |
|---|---|
| Standards/regulations | IEC 60947-5-1 |
| | DIN EN 50155/VDE 0115-200 (in relevant parts) |

## Mounting

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

## Drawings

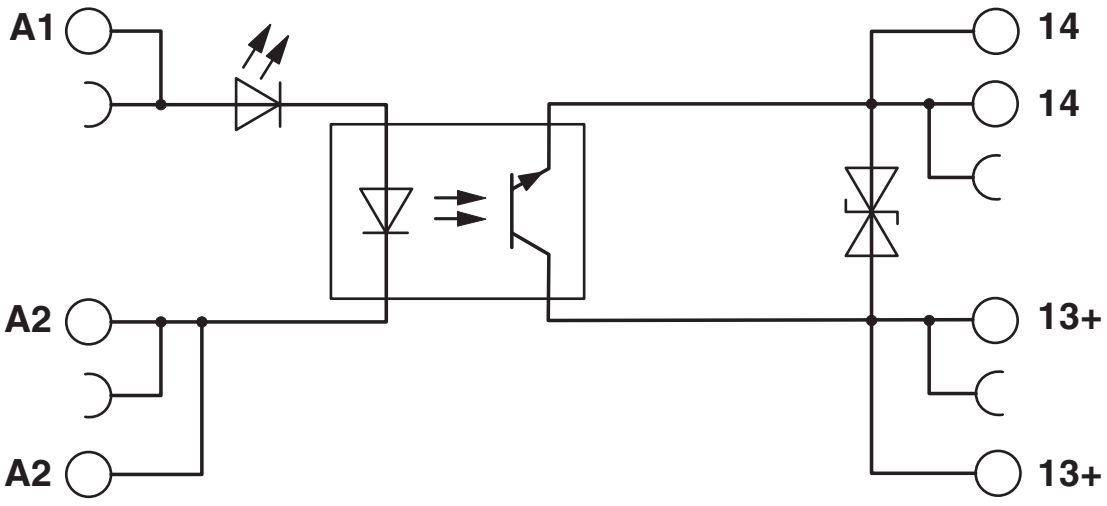
Diagram




❶ In rows with zero spacing
❷ in rows with > 20 mm spacing

The figure shows the load current as function of the ambient temperature range PLC-OSP-.../24DC/3RW. Duty cycle: 100% operating factor

Circuit diagram



## Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/2980610

**cUL Recognized**
Approval ID: FILE E 238705

**UL Recognized**
Approval ID: FILE E 238705

**EAC**
Approval ID: TR_TS_D_00573_c

**DNV GL**
Approval ID: TAE0000196

**UL Listed**
Approval ID: FILE E 172140

**cUL Listed**
Approval ID: FILE E 172140

**cULus Listed**
Approval ID: E140324

**cULus Recognized**

**cULus Listed**

## Classifications

### ECLASS

| | |
|---|---|
| ECLASS-11.0 | 27371604 |
| ECLASS-12.0 | 27371604 |
| ECLASS-13.0 | 27371604 |

### ETIM

| | |
|---|---|
| ETIM 9.0 | EC001504 |

### UNSPSC

| | |
|---|---|
| UNSPSC 21.0 | 39122300 |

## 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 | e3937c73-52b4-4b5e-ab40-b1be526e0113 |

## Accessories

### 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 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

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

1204119

https://www.phoenixcontact.com/us/products/1204119



DIN rail perforated, Pack of 25 (50 m), acc. to EN 60715, material: Steel, Galvanized, white passivated, Standard profile, color: silver

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

1204122

https://www.phoenixcontact.com/us/products/1204122



DIN rail, unperforated, Pack of 10 (20 m), acc. to EN 60715, material: Steel, Galvanized, white passivated, Standard profile, color: silver

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

0801704

https://www.phoenixcontact.com/us/products/0801704



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

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

1206421

https://www.phoenixcontact.com/us/products/1206421



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

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

1206434

https://www.phoenixcontact.com/us/products/1206434



DIN rail, unperforated, Pack of 25 (50 m), acc. to EN 60715, material: Steel, galvanized, 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

## NS 35/ 7,5 CAP - End cap

1206560

https://www.phoenixcontact.com/us/products/1206560

DIN rail end piece, for DIN rail NS 35/7.5



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

0806602

https://www.phoenixcontact.com/us/products/0806602



DIN rail perforated, Pack of 25 (50 m), similar to EN 60715, material: Steel, Galvanized, white passivated, Standard profile, color: white

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

1204135

https://www.phoenixcontact.com/us/products/1204135



DIN rail, unperforated, Pack of 10 (20 m), similar to EN 60715, material: Steel, Galvanized, white passivated, Standard profile, 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

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

1206599

https://www.phoenixcontact.com/us/products/1206599



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

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

1206586

https://www.phoenixcontact.com/us/products/1206586



DIN rail, unperforated, Pack of 25 (50 m), similar to EN 60715, material: Steel, galvanized, 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

## NS 35/15 CAP - End cap

1206573

https://www.phoenixcontact.com/us/products/1206573

DIN rail end piece, for DIN rail NS 35/15



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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

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