# PLC-OPT- 24DC/24DC/100KHZ-G - Solid-state relay module

2902974

https://www.phoenixcontact.com/us/products/2902974

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Input solid-state relay, with DC voltage output push-pull, transmission frequency: 100 kHz, with light indicator and protective circuit in input and output circuits, input: 24 V DC, output: 14 - 30 V DC/50 mA

## Commercial data

| | |
|---|---|
| Item number | 2902974 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Sales key | C461 |
| Product key | DK62A3 |
| GTIN | 4046356702782 |
| Weight per piece (including packing) | 34.9 g |
| Weight per piece (excluding packing) | 32.86 g |
| Customs tariff number | 85364190 |
| Country of origin | DE |

# Technical data

## Product properties

| | |
|---|---|
| Product type | Solid-state relay module |
| Product family | PLC-INTERFACE |
| Application | 100 kHz input optocoupler |
| Operating mode | 100% operating factor |

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

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

Data management status

| | |
|---|---|
| Date of last data management | 01.04.2026 |

## Electrical properties

| | |
|---|---|
| Maximum power dissipation for nominal condition | 0.19 W |
| Test voltage (Input/output) | 2.5 $kV_{rms}$ (50 Hz, 1 min., input/output) |

Air clearances and creepage distances between the power circuits

| | |
|---|---|
| Rated insulation voltage | 50 V DC |
| Rated surge voltage | 0.5 kV |

## Input data

| | |
|---|---|
| Nominal input voltage $U_N$ | 24 V DC |
| Input voltage range in reference to $U_N$ | 0.8 ... 1.2 |
| Input voltage range | 19.2 V DC ... 28.8 V DC |
| Switching threshold "0" signal in reference to $U_N$ | < 0.4 |
| Switching threshold "1" signal in reference to $U_N$ | > 0.8 |
| Typical input current at $U_N$ | 8 mA |
| Typical response time | 1 µs |
| Typical turn-off time | 2 µs |
| Operating voltage display | Yellow LED |
| Protective circuit | Reverse polarity protection |
| | Surge protection |
| Surge voltage protection | > 33 V |
| Transmission frequency | 100 kHz |

## Output data

Output data

| | |
|---|---|
| Contact switching type | 1 N/O contact |
| Design of digital output | electronic |
| Output voltage range | 14 V DC ... 30 V DC |

| | |
|---|---|
| Limiting continuous current | 50 mA |
| Quiescent current | 15 mA |
| Surge voltage protection | > 35 V |
| Voltage drop at max. limiting continuous current | < 2.2 V |
| Output circuit | 3-conductor push-pull, ground referenced |
| Protective circuit | Reverse polarity protection |
| | Surge protection |

## Connection data

| | |
|---|---|
| Connection method | Push-in connection |
| Stripping length | 10 mm |
| 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 mm² (TWIN ferrule) |
| Conductor cross-section AWG | 26 ... 14 |

## Dimensions

Item dimensions

| | |
|---|---|
| Width | 6.2 mm |
| Height | 80 mm |
| Depth | 94 mm |

## Material specifications

| | |
|---|---|
| Color | gray (RAL 7042) |

## Environmental and real-life conditions

Ambient conditions

| | |
|---|---|
| Degree of protection | IP20 |
| Ambient temperature (operation) | -20 °C ... 60 °C |
| Ambient temperature (storage/transport) | -25 °C ... 75 °C |

## Approvals

Corrosive gas test

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

## Standards and regulations

Air clearances and creepage distances between the power circuits

| | |
|---|---|
| Standards/regulations | IEC 60947-5-1 |

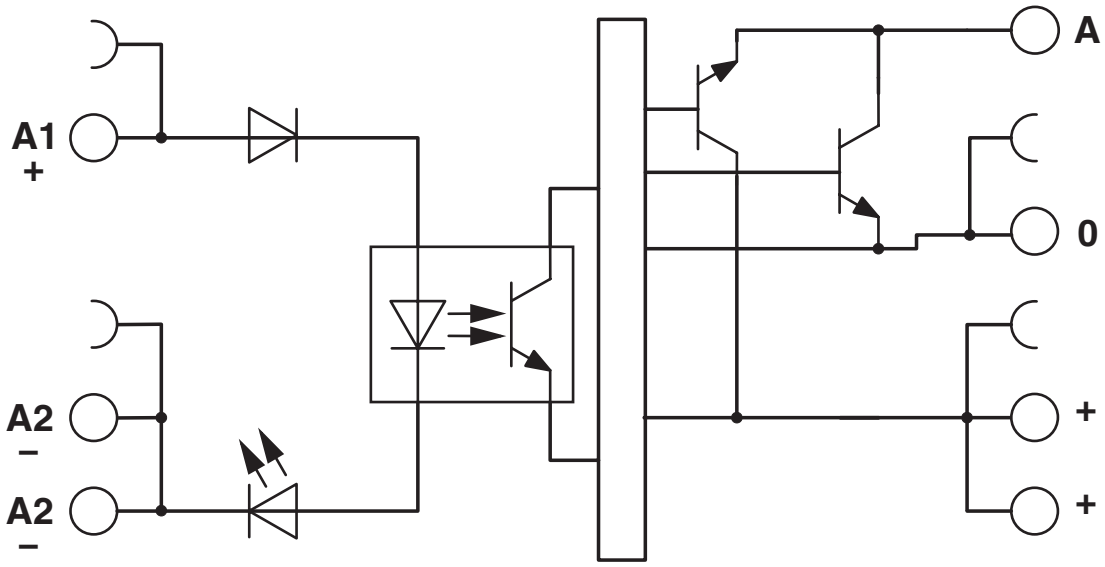
## Mounting

| | |
|---|---|
| Mounting type | DIN rail mounting |

| | |
|---|---|
| Assembly note | in rows with zero spacing |
| Mounting position | any |

## Drawings

Circuit diagram



## Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/2902974

**cULus Listed**
Approval ID: E140324

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## Classifications

### ECLASS

| | |
|---|---|
| ECLASS-13.0 | 27371604 |
| ECLASS-15.0 | 27371604 |

### ETIM

| | |
|---|---|
| ETIM 10.0 | 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 | ae848b7f-347e-49fa-9871-b9d3fd082dfb |

EF3.1 Climate Change

| | |
|---|---|
| CO2e kg | 1.818 kg CO2e |


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