

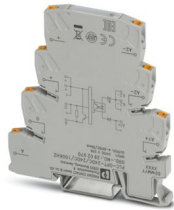
# PLC-OPT- 24DC/24DC/100KHZ - Solid-state relay module



2902970

<https://www.phoenixcontact.com/us/products/2902970>

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Input solid-state relay, transmission frequency: 100 kHz, with LED and protective circuit in input and output circuits, input: 24 V DC, output: 4 ... 30 V DC/50 mA

## Commercial data

Item number	2902970
Packing unit	1 pc
Note	Made to order (non-returnable)
Sales key	C461
Product key	DK6235
GTIN	4046356702812
Weight per piece (including packing)	38.8 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	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	15.09.2025
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### Electrical properties

Maximum power dissipation for nominal condition	0.14 W
Test voltage (Input/output)	2.5 kV <sub>rms</sub> (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 $U_N$	6 mA
Typical response time	1.5 $\mu$ s
Typical turn-off time	2 $\mu$ s
Operating voltage display	Yellow LED
Protective circuit	Reverse polarity protection Surge protection
Surge voltage protection	> 33 V
Transmission frequency	100 kHz

### Output data

Designation	Output data
Contact switching type	1 N/O contact
Design of digital output	electronic
Output voltage range	4 V DC ... 30 V DC
Limiting continuous current	50 mA

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Quiescent current	4.3 mA
Surge voltage protection	> 35 V
Voltage drop at max. limiting continuous current	< 0.5 V
Output circuit	3-conductor, 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 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> 0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> (Single ferrule) 2x 0.5 mm <sup>2</sup> ... 1 mm <sup>2</sup> (TWIN ferrule)
Conductor cross-section AWG	26 ... 14

## Dimensions

Width	6.2 mm
Height	80 mm
Depth	94 mm

## Material specifications

Color	gray (RAL 7042)
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## 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
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## Standards and regulations

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

Standards/regulations	DIN EN 50178
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## Mounting

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

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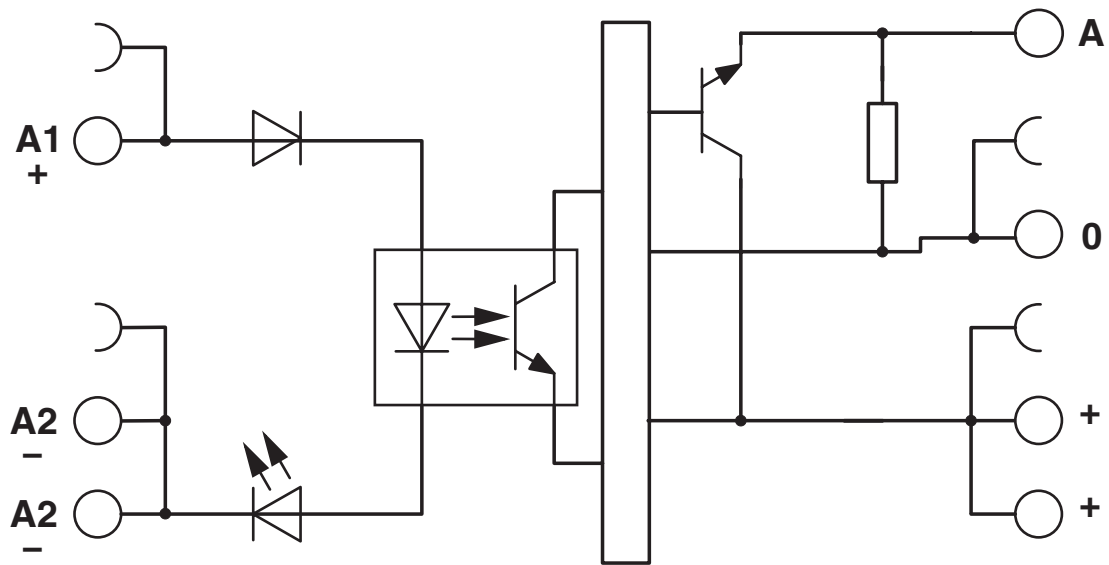


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## Drawings

Circuit diagram



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## Classifications

### UNSPSC

UNSPSC 21.0	39122300
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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)
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