

# PLC-OPT- 48DC/110DC/3RW - Solid-state relay module



2900393

<https://www.phoenixcontact.com/gb/products/2900393>

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PLC-INTERFACE for railway applications, consisting of basic terminal block with push-in 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: 48 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:  $-25^\circ\text{C}$  ...  $+70^\circ\text{C}$
- Input voltage range of  $0.7 - 1.25 \times U_N$

## Commercial data

Item number	2900393
Packing unit	10 pc
Minimum order quantity	1 pc
Sales key	DK62AL
Product key	DK62AL
Catalog page	Page 417 (C-5-2019)
GTIN	4046356508988
Weight per piece (including packing)	35.82 g
Weight per piece (excluding packing)	31.89 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

Insulation characteristics: Air clearances and creepage distances, input/output

Insulation	Basic insulation
Overvoltage category	III
Pollution degree	2

Data management status

Date of last data management	16.09.2024
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### Electrical properties

Maximum power dissipation for nominal condition	0.26 W
Test voltage (Input/output)	2.5 kV AC (Input/output)

Air clearances and creepage distances, input/output

Rated insulation voltage	160 V
Rated surge voltage	4 kV

### Input data

Nominal input voltage $U_N$	48 V DC
Input voltage range in reference to $U_N$	0.7 ... 1.25 ( $t < 1 \text{ s} = 0.6 \dots 1.4 \times U_N$ )
Input voltage range	33.6 V DC ... 60 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	400 $\mu\text{s}$
Typical turn-off time	800 $\mu\text{s}$
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
Design of digital output	electronic
Output nominal voltage	110 V DC
Output voltage range	12 V DC ... 140 V DC ( $t < 1 \text{ s} = 1.40 \times U_N$ )
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 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)
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

## Approvals

### CE

Certificate	CE-compliant
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### UKCA

Certificate	UKCA-compliant
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### Corrosive gas test

Identification	ISA-S71.04. G3 Harsh Group EN 60068-2-60
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### Shipbuilding approval

Certificate	TAE0000196
Temperature	D
Humidity	A

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Vibration	B
EMC	B
Enclosure	Required protection according to the Rules shall be provided upon installation on board

## EMC data

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

## Standards and regulations

### Air clearances and creepage distances, input/output

Standards/regulations	IEC 60947-5-1
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### Railway standard

Standards/regulations	DIN EN 50155 (in relevant parts)
Standards/regulations	DNVGL-CG-0339

## Mounting

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

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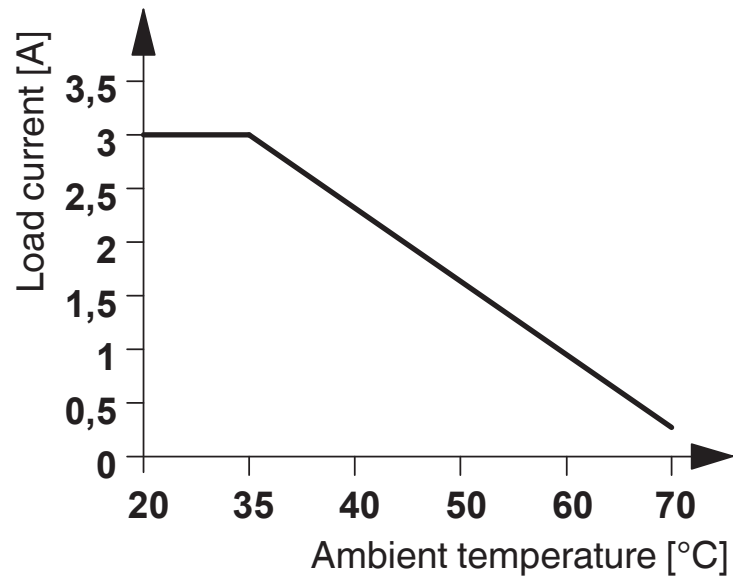


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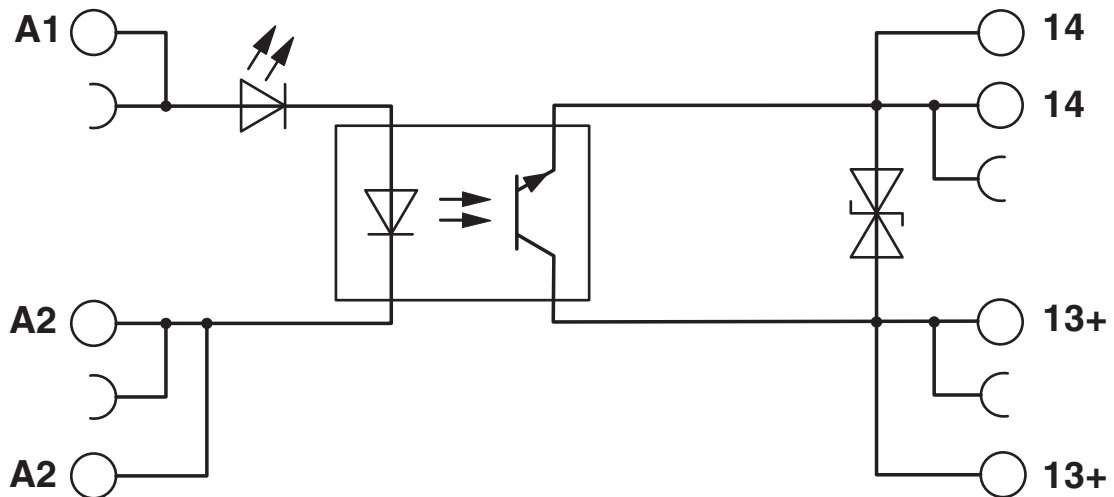
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## Drawings

Diagram



Circuit diagram



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/gb/products/2900393>



**EAC**

Approval ID: RU\*C-DE.\*08.B.00010



**cULus Listed**

Approval ID: E140324



**cUL Recognized**

Approval ID: E238705



**UL Recognized**

Approval ID: E238705



**UL Listed**

Approval ID: FILE E 172140



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## Classifications

### ECLASS

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

### ETIM

ETIM 9.0	EC001504
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### 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)
SCIP	87bdf099-2937-4f4c-b366-51276acf3c52

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PHOENIX CONTACT Ltd  
Halesfield 13, Telford  
Shropshire, TF7 4PG  
01952 681700  
[info@phoenixcontact.co.uk](mailto:info@phoenixcontact.co.uk)