

OPT- 5DC/230AC/ 2 - Miniature solid-state relay



2982168
<https://www.phoenixcontact.com/us/products/2982168>

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Plug-in miniature solid-state relay, power solid-state relay, 1 N/O contact, input: 5 V DC, output: 24 - 253 V AC/2 A

Your advantages

- Vibration and shock resistant
- RT III-proof (wash-proof)
- Wear-free and durable
- Switching power of up to 24 V DC/5 A
- Can be soldered on PCB
- Zero voltage switch at AC output

Commercial data

Item number	2982168
Packing unit	10 pc
Minimum order quantity	10 pc
Note	Made to order (non-returnable)
Sales key	C460
Product key	DK69L2
Catalog page	Page 297 (C-5-2019)
GTIN	4017918996963
Weight per piece (including packing)	10.93 g
Weight per piece (excluding packing)	10.93 g
Customs tariff number	85364190
Country of origin	HU

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Technical data

Product properties

Product type	Single solid-state relay
Operating mode	100% operating factor

Insulation characteristics: Standards/regulations

Insulation	Basic insulation
Overvoltage category	III
Pollution degree	2

Data management status

Date of last data management	19.03.2025
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Electrical properties

Maximum power dissipation for nominal condition	0.08 W
Test voltage (Input/output)	2.5 kV (50 Hz, 1 min., input/output)

Standards/regulations

Rated insulation voltage	250 V AC
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Input data

Nominal input voltage U_N	5 V DC
Input voltage range in reference to U_N	0.8 ... 1.2
Input voltage range	4 V DC ... 6 V DC
Switching threshold "0" signal in reference to U_N	0.2
Switching threshold "1" signal in reference to U_N	0.6
Typical input current at U_N	15 mA
Typical response time	10 ms
Typical turn-off time	10 ms
Protective circuit	Reverse polarity protection; Polarity protection diode
Transmission frequency	10 Hz

Output data

Contact switching type	1 N/O contact
Design of digital output	electronic
Output nominal voltage	230 V AC
Output voltage range	24 V AC ... 253 V AC
Limiting continuous current	2 A (see derating curve)
Maximum inrush current	30 A (10 ms)
Min. load current	25 mA
Leakage current	< 1 mA
Surge current	30 A (10 ms)
Max. load value	4 A ² s (tp = 10 ms, at 25 °C)
Voltage drop at max. limiting continuous current	≤ 1 V

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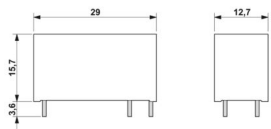


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Output circuit	2-conductor floating, zero voltage switch
Protective circuit	Surge protection; RC element

Dimensions

Dimensional drawing	
Width	12.7 mm
Height	29 mm
Depth	15.7 mm

Material specifications

Color	black (RAL 9005)
Flammability rating according to UL 94	V0 (Housing)

Environmental and real-life conditions

Ambient conditions

Degree of protection	RT III
Ambient temperature (operation)	-25 °C ... 60 °C
Ambient temperature (storage/transport)	-25 °C ... 70 °C

Approvals

Corrosive gas test

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

Standards and regulations

Standards/regulations

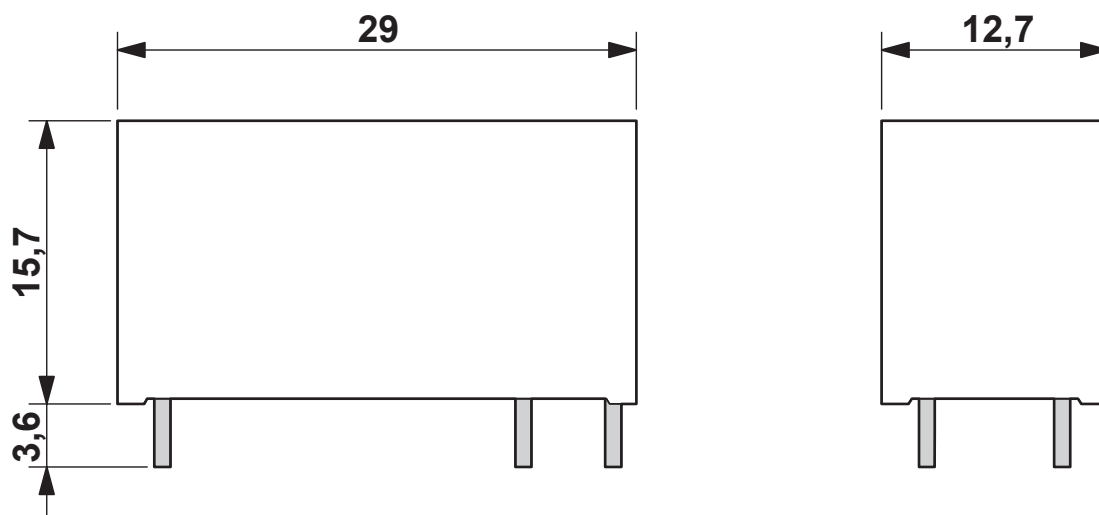
Standards/regulations	IEC 60664
	EN 50178

Mounting

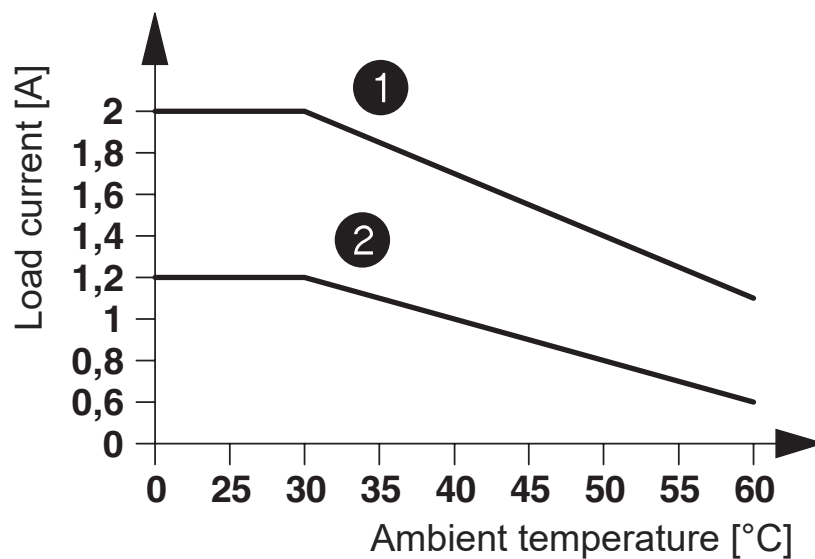
Assembly note	See derating curve
Mounting position	any

Drawings

Dimensional drawing



Diagram

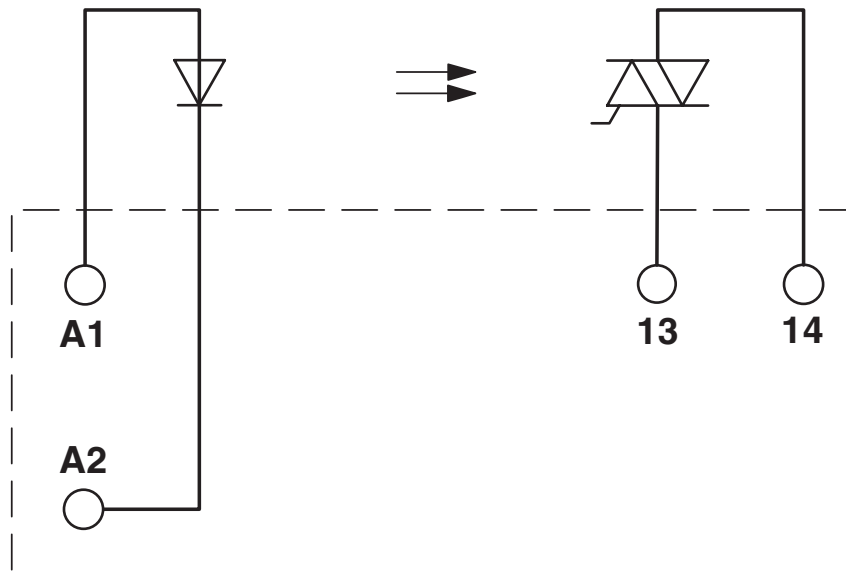


- ① In rows with 10 mm spacing
- ② In rows with zero spacing

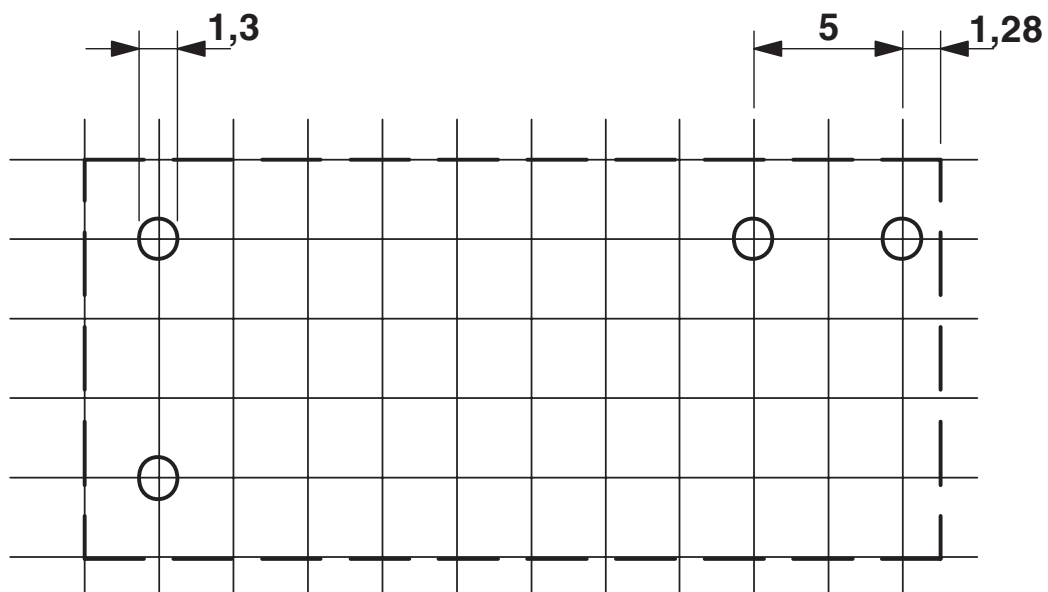
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Circuit diagram



Drilling plan/solder pad geometry



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Approvals

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cUL Recognized
Approval ID: FILE E 195083



UL Recognized
Approval ID: FILE E 195083



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



UL Recognized
Approval ID: FILE E 195083



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Classifications

ECLASS

ECLASS-13.0	27371604
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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, No exemptions
China RoHS	
Environment friendly use period (EFUP)	EFUP-E
	No hazardous substances above the limits
EU REACH SVHC	
REACH candidate substance (CAS No.)	No substance above 0.1 wt%

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