

OPT-24DC/ 24DC/ 5 - Miniature solid-state relay



2982100

<https://www.phoenixcontact.com/pc/products/2982100>

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Plug-in miniature solid-state relay, power solid-state relay, 1 N/O contact, input: 24 V DC, output: 3 - 33 V DC/5 A

Your advantages

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

Commercial data

Item number	2982100
Packing unit	10 pc
Minimum order quantity	10 pc
Product key	DK69L1
GTIN	4017918937492
Weight per piece (including packing)	11.65 g
Weight per piece (excluding packing)	11.65 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	0.17 W
Test voltage (Input/output)	2.5 kV (50 Hz, 1 min., input/output)

Standards/regulations

Rated insulation voltage	100 V DC
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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	0.7
Typical input current at U_N	7 mA
Typical response time	20 μ s
Typical turn-off time	400 μ s
Protective circuit	Reverse polarity protection; Polarity protection diode
Transmission frequency	300 Hz

Output data

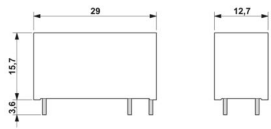
Contact switching type	1 N/O contact
Design of digital output	electronic
Output nominal voltage	24 V DC
Output voltage range	3 V DC ... 33 V DC
Limiting continuous current	5 A (see derating curve)
Maximum inrush current	15 A (10 ms)
Surge voltage protection	> 33 V DC
Voltage drop at max. limiting continuous current	\leq 200 mV
Output circuit	2-conductor, floating
Protective circuit	Reverse polarity protection; Polarity protection diode Surge protection

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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
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Standards and regulations

Standards/regulations

Standards/regulations	IEC 60664 EN 50178
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Mounting

Assembly note	in rows with zero spacing
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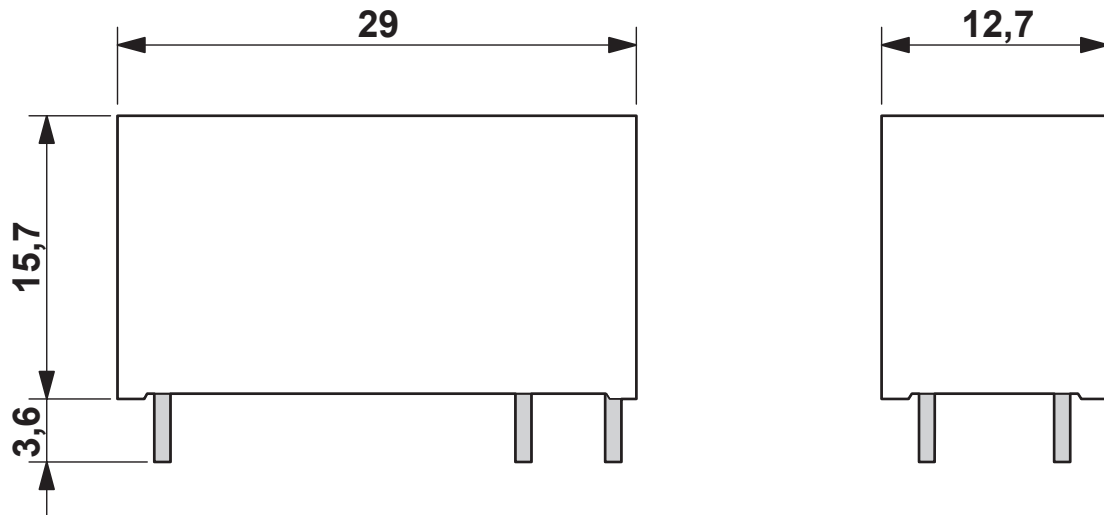
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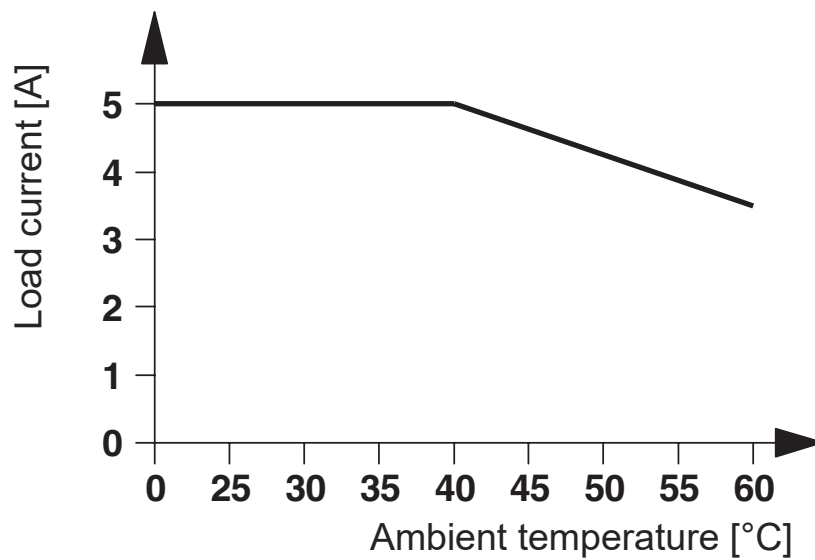
<https://www.phoenixcontact.com/pc/products/2982100>

Drawings

Dimensional drawing



Diagram



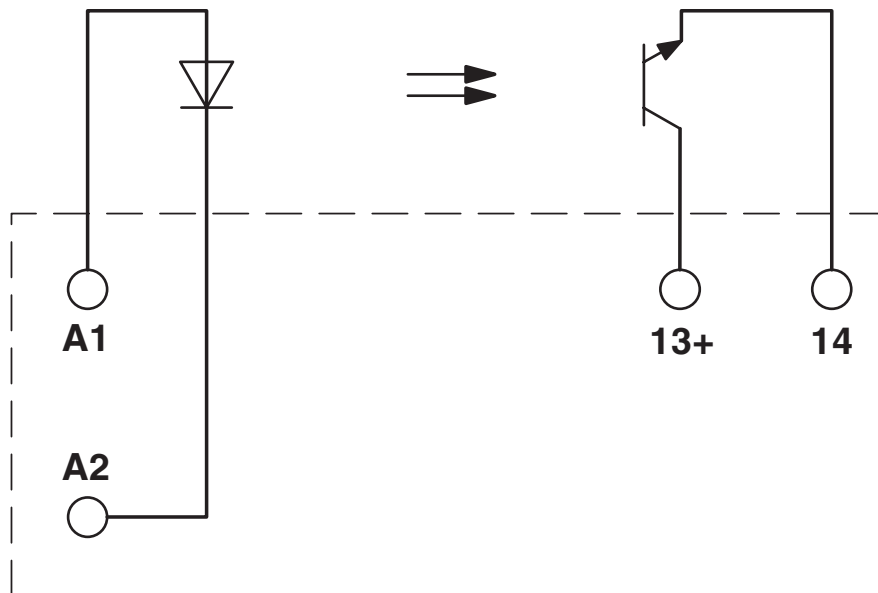
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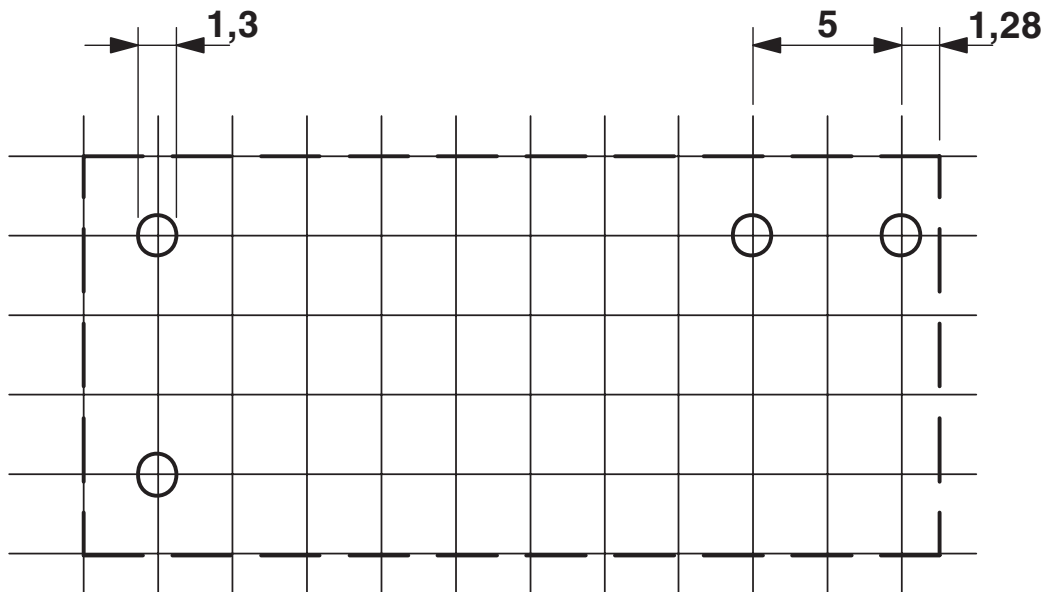
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Circuit diagram



Pin assignments: View of the connections

Drilling plan/solder pad geometry



Basic pitch 2.5 mm

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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



cUL Recognized
Approval ID: FILE E 195083

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Classifications

ECLASS

ECLASS-13.0	27371604
ECLASS-15.0	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(c)-I

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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Mandatory accessories

PLC-BPT- 24DC/21-21 - Relay base

2900283

<https://www.phoenixcontact.com/pc/products/2900283>



14 mm PLC basic terminal block with Push-in connection, without relay or solid-state relay, for mounting on DIN rail NS 35/7,5, 2 changeover contacts, input voltage 24 V DC

PLC-BSC- 24DC/21-21 - Relay base

2967015

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14 mm PLC basic terminal block with screw connection, without relay or solid-state relay, for mounting on DIN rail NS 35/7,5, 2 changeover contacts, input voltage 24 V DC

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PLC-BPT- 24DC/ 1IC/ACT - Relay base

2900260

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14 mm PLC basic terminal block for high switch-on currents with push-in connection, without relay or solid-state relay, for mounting on DIN rail NS 35/7,5, with load return line connection (BB), 1 N/O contact, input voltage 24 V DC

PLC-BSC- 24DC/ 1IC/ACT - Relay base

2967837

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14 mm PLC basic terminal block for high switch-on currents with screw connection, without relay or solid-state relay, for mounting on DIN rail NS 35/7,5, with load return line connection (BB), 1 N/O contact, input voltage 24 V DC

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PLC-BPT- 24DC/21HC - Relay base

2900254

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14 mm PLC basic terminal block for high continuous currents with Push-in connection, without relay or solid-state relay, for mounting on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V DC

PLC-BSC- 24DC/21HC - Relay base

2967772

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14 mm PLC basic terminal block for high continuous currents with screw connection, without relay or solid-state relay, for mounting on DIN rail NS 35/7,5, 1 changeover contact, input voltage 24 V DC

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RIF-1-BPT/2X21 - Relay base

2900931

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Relay base RIF-1..., for miniature power relay with 1 or 2 changeover contacts or solid-state relays of the same design, Push-in connection, plug-in option for input/interference suppression modules, for mounting on NS 35/7,5

RIF-1-BSC/2X21 - Relay base

2900930

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RIF-1... relay base, for miniature power relay with 1 or 2 changeover contacts or identical solid-state relays, screw connection, plug-in option for input/interference suppression modules, for mounting on NS 35/7,5

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