

# OPT-24DC/230AC/ 2 - Miniature solid-state relay



2982171

<https://www.phoenixcontact.com/gb/products/2982171>

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

## Your advantages

- Vibration and shock resistant
- RT III-proof (wash-proof)
- Wear-free and durable
- Can be soldered on PCB
- Zero voltage switch at AC output

## Commercial data

Item number	2982171
Packing unit	10 pc
Minimum order quantity	10 pc
Sales key	CK61F3
Product key	CK61F3
Catalog page	Page 297 (C-5-2019)
GTIN	4017918996970
Weight per piece (including packing)	11.84 g
Weight per piece (excluding packing)	10.33 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

Insulation	Basic insulation
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### Insulation characteristics: Standards/regulations

Insulation	Basic insulation
Overvoltage category	III
Pollution degree	2

### 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	250 V AC
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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, voltage	< 8.4 V DC
Switching threshold "1" signal voltage	> 18 V DC
Typical input current at $U_N$	7 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	typ. 1 mA
Surge current	30 A (10 ms)
Max. load value	4 A <sup>2</sup> s (tp = 10 ms, at 25 °C)
Voltage drop at max. limiting continuous current	≤ 1 V

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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

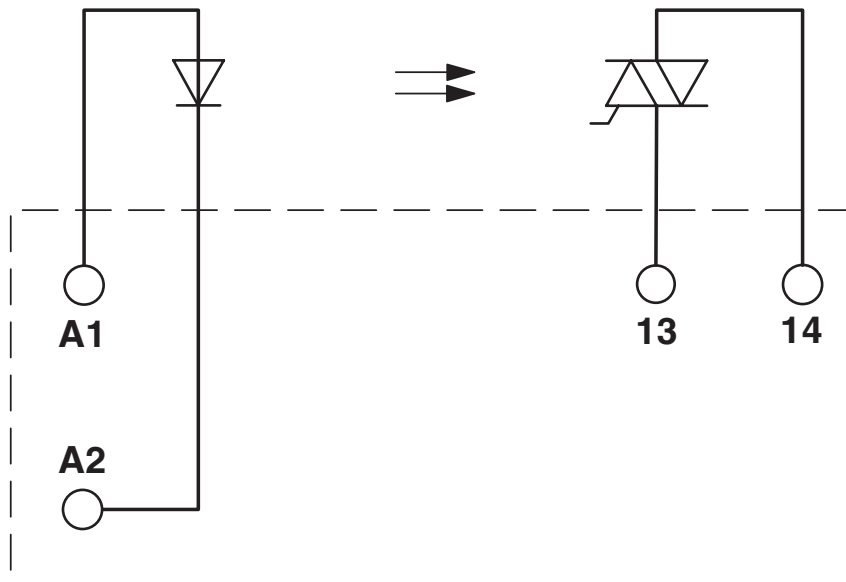
Assembly instructions	See derating curve
Mounting position	any

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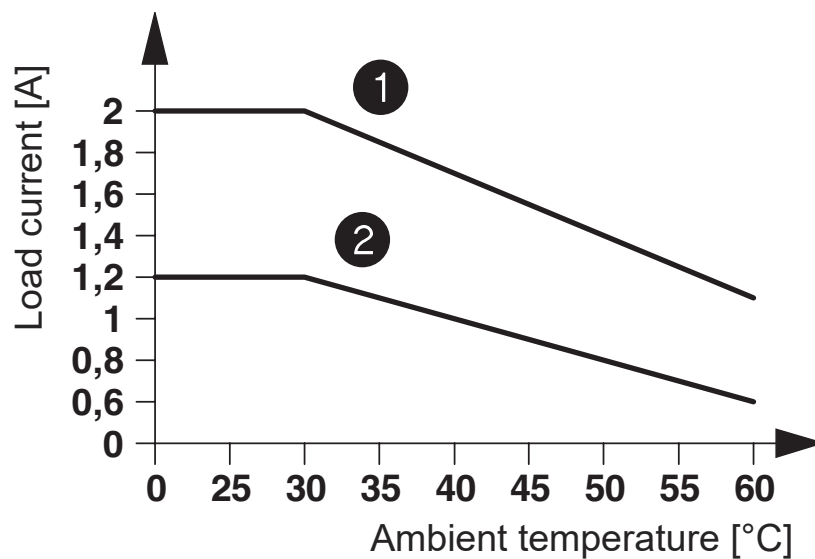
<https://www.phoenixcontact.com/gb/products/2982171>

## Drawings

Circuit diagram



Diagram



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

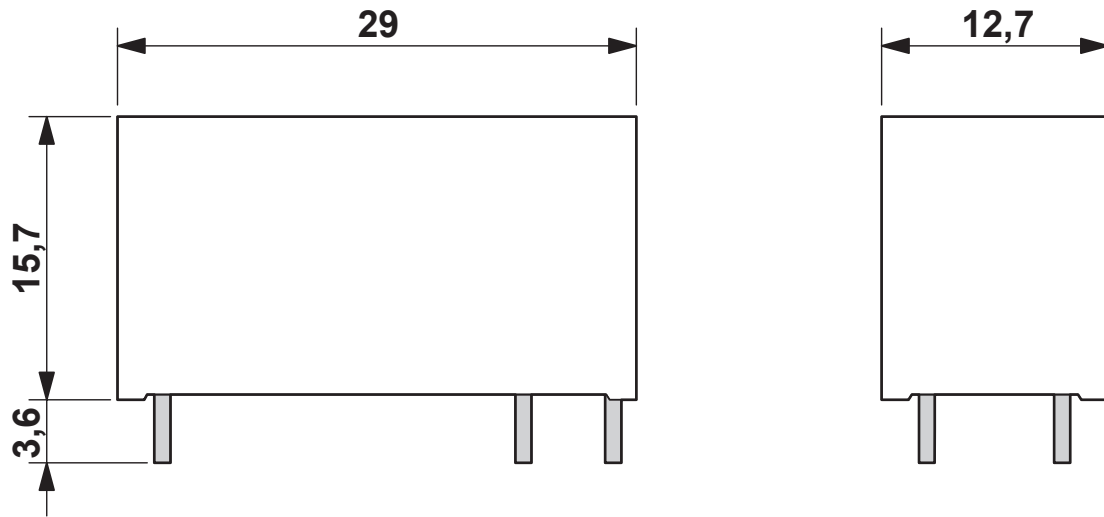
# OPT-24DC/230AC/ 2 - Miniature solid-state relay



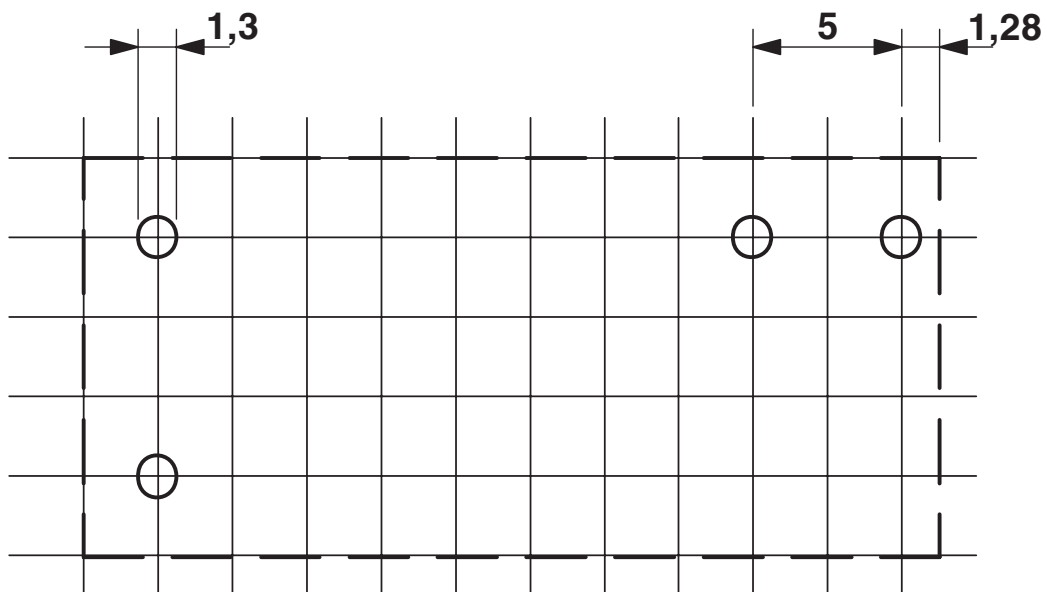
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Dimensional drawing



Drilling plan/solder pad geometry



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/gb/products/2982171>



**cUL Recognized**  
Approval ID: FILE E 195083



**UL Recognized**  
Approval ID: FILE E 195083



**EAC**  
Approval ID: TR\_TS\_D\_00573\_c



**UL Recognized**  
Approval ID: FILE E 195083



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



**cUL Recognized**  
Approval ID: FILE E 195083

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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

China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values



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## Mandatory accessories

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

2900283

<https://www.phoenixcontact.com/gb/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

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

2967015

<https://www.phoenixcontact.com/gb/products/2967015>



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

<https://www.phoenixcontact.com/gb/products/2900260>



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

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

2967837

<https://www.phoenixcontact.com/gb/products/2967837>



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

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

2967772

<https://www.phoenixcontact.com/gb/products/2967772>



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

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## RIF-1-BSC/2X21 - Relay base

2900930

<https://www.phoenixcontact.com/gb/products/2900930>



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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