

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



2982100

<https://www.phoenixcontact.com/in/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
Sales Key	CK6
Product Key	CK61F2
Catalog Page	Page 296 (C-5-2019)
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

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	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, voltage	$\leq 10$ V
Switching threshold "1" signal voltage	$\geq 16$ V
Typical input current at $U_N$	7 mA
Typical response time	20 $\mu$ s
Typical turn-off time	400 $\mu$ s
Protective circuit	Reverse polarity protection; Polarity protection diode
Transmission frequency	300 Hz

### Output data

Contact 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

Flammability rating according to UL 94	V0 (Housing)
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## 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	in rows with zero spacing
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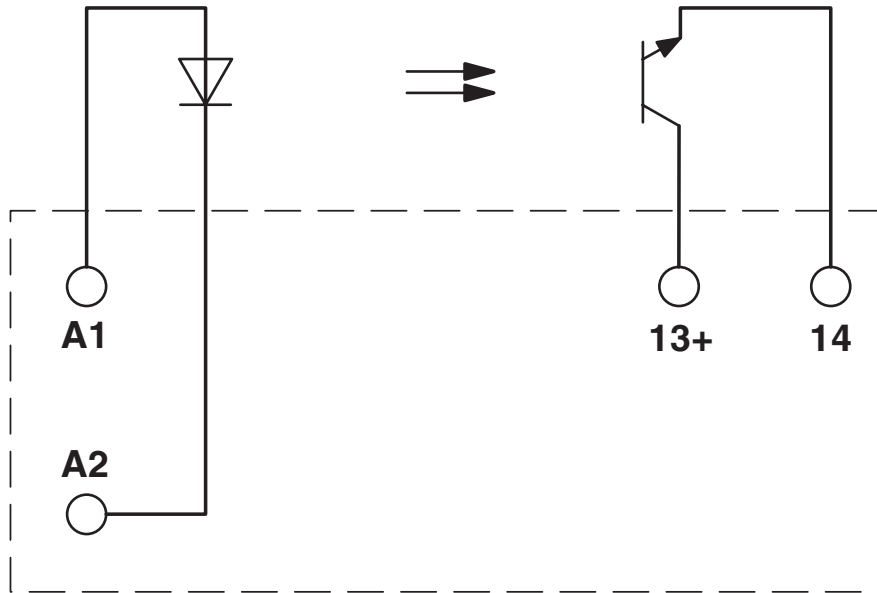
# OPT-24DC/ 24DC/ 5 - Miniature solid-state relay

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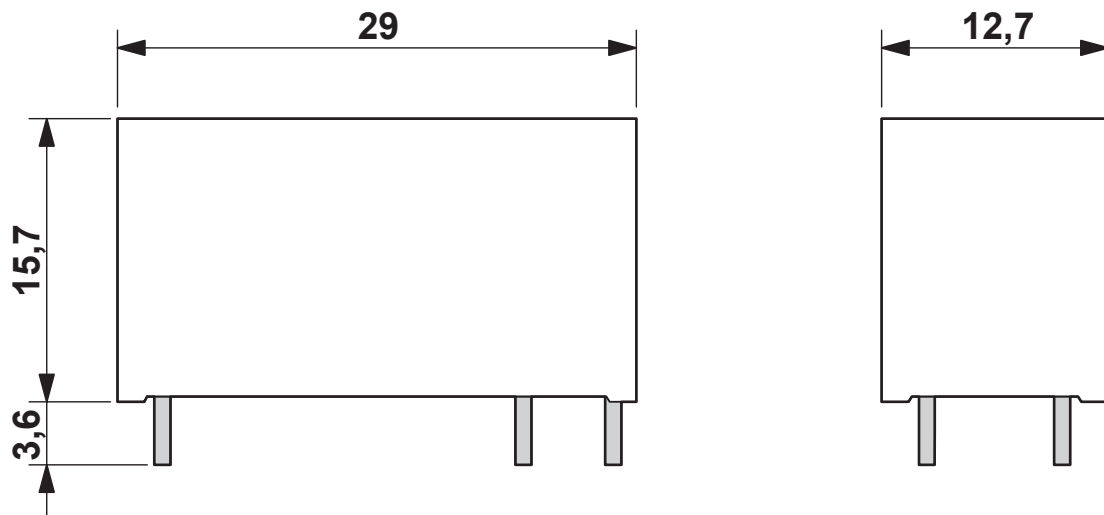
<https://www.phoenixcontact.com/in/products/2982100>

## Drawings

Circuit diagram



Dimensional drawing



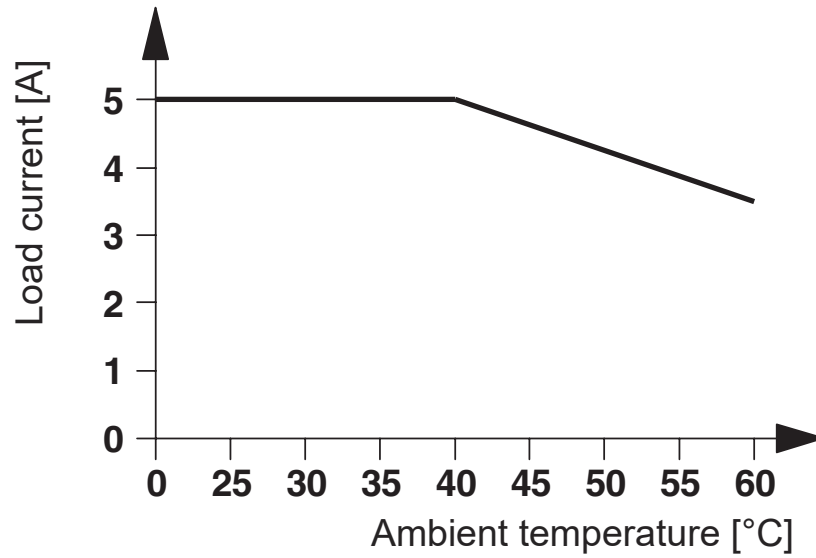
# OPT-24DC/ 24DC/ 5 - Miniature solid-state relay



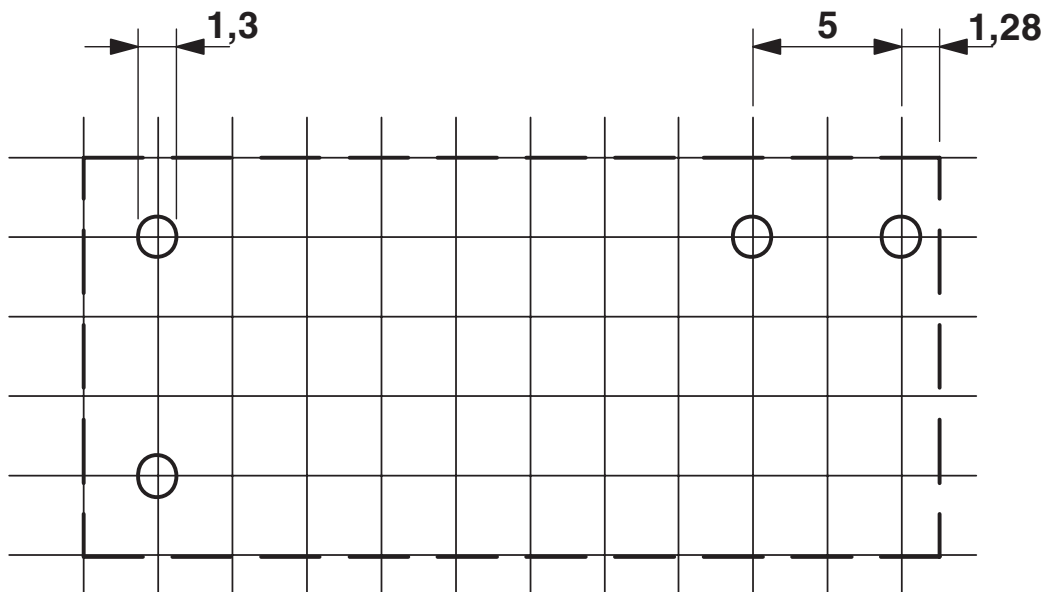
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Diagram



Drilling plan/solder pad geometry



Basic pitch 2.5 mm

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## Approvals



**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



**PRS**  
Approval ID: TE/2109/880590/16



**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 8.0	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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## Accessories

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

2900283

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

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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- 48DC/21-21 - Relay base

2900285

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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 48 V DC

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## PLC-BSC- 48DC/21-21 - Relay base

2967264

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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 48 V DC

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

2900260

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

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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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## PLC-BSC- 48DC/21HC - Relay base

2967798

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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 48 V DC

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

2900931

<https://www.phoenixcontact.com/in/products/2900931>



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/in/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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