

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



2982171

<https://www.phoenixcontact.com/de/produkte/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

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Commercial Data

Item number	2982171
Packing unit	10 pc
Minimum order quantity	10 pc
Sales Key	G1 - Relais
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

Overvoltage category	III
Pollution degree	2
Insulation	Basic insulation

Electrical properties

Maximum power dissipation for nominal condition	0.17 W
Test voltage Input/output	2.5 kV (50 Hz, 1 min., input/output)
Rated insulation voltage	250 V AC

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 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 ² s (tp = 10 ms, at 25 °C)
Voltage drop at max. limiting continuous current	≤ 1 V
Output circuit	2-conductor floating, zero voltage switch
Protective circuit	Surge protection; RC element

Dimensions

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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

Approval data

Corrosive gas test

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

Standards and regulations

Standards/regulations

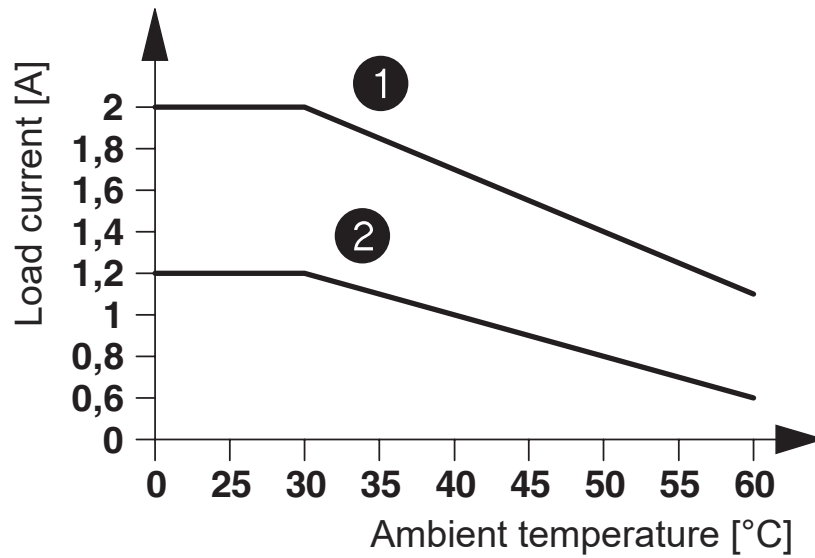
Standards/regulations	IEC 60664
	EN 50178

Mounting

Assembly instructions	See derating curve
Mounting position	any

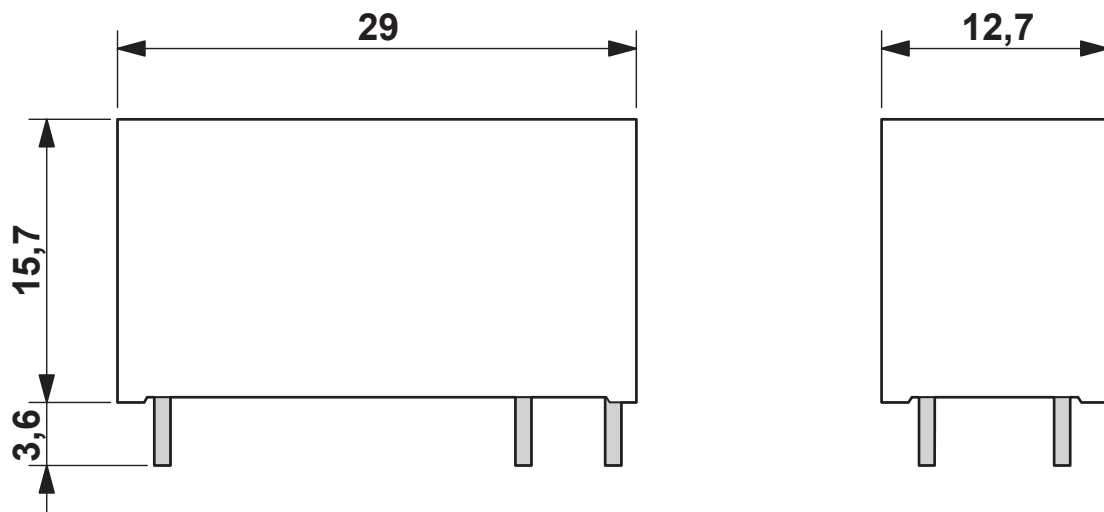
Drawings

Diagram



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

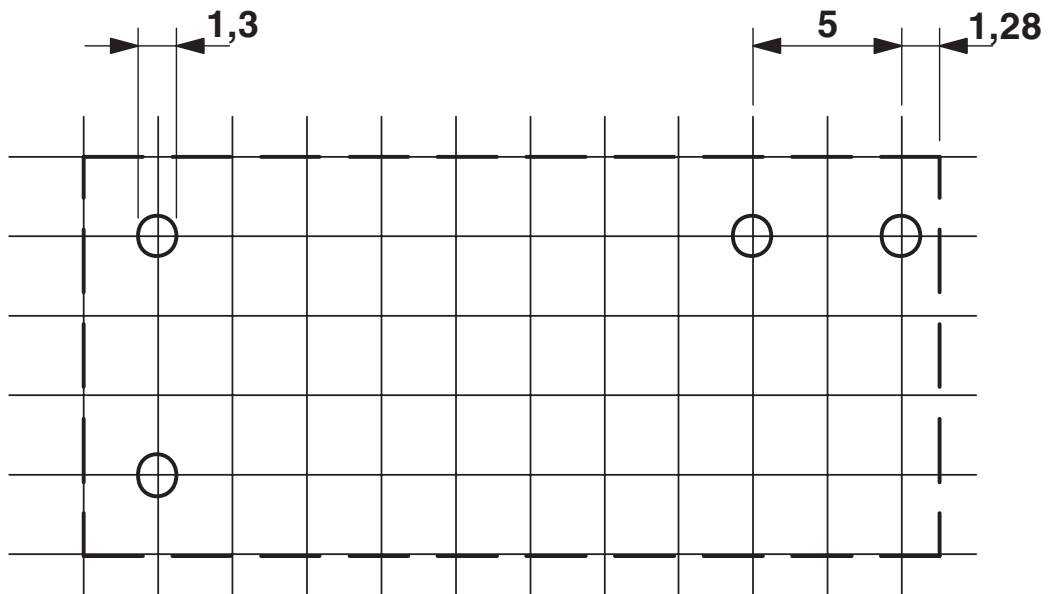
Dimensional drawing



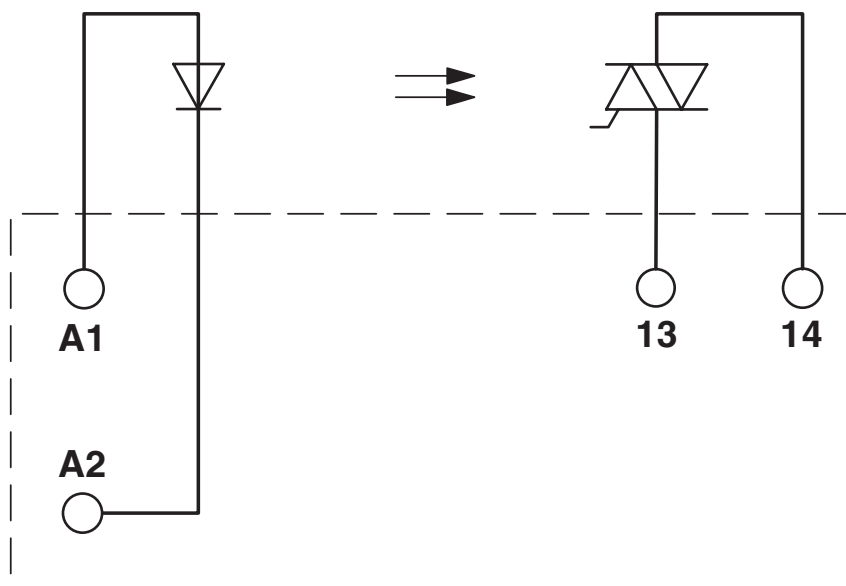
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Drilling plan/solder pad geometry



Circuit diagram



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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



cUL Recognized
Approval ID: FILE E 195083

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Classifications

ECLASS

ECLASS-9.0	27371604
ECLASS-10.0.1	27371604
ECLASS-11.0	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

Relay base

Relay base - PLC-BPT- 24DC/21-21 - 2900283

<https://www.phoenixcontact.com/de/produkte/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

Relay base

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

Relay base - PLC-BPT- 48DC/21-21 - 2900285

<https://www.phoenixcontact.com/de/produkte/2900285>



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

Relay base

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

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

Relay base

Relay base - PLC-BSC- 24DC/21HC - 2967772

<https://www.phoenixcontact.com/de/produkte/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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Relay base

Relay base - PLC-BPT- 48DC/21HC - 2900256

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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 48 V DC

Relay base

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

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

Relay base

Relay base - PLC-BSC- 24DC/ 1IC/ACT - 2967837

<https://www.phoenixcontact.com/de/produkte/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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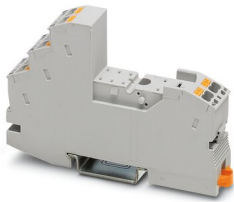
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Relay base

Relay base - RIF-1-BPT/2X21 - 2900931

<https://www.phoenixcontact.com/de/produkte/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

Relay base

Relay base - RIF-1-BSC/2X21 - 2900930

<https://www.phoenixcontact.com/de/produkte/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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