

# OPT-24DC/230AC/ 1 - Miniature solid-state relay



2967950

<https://www.phoenixcontact.com/gb/products/2967950>

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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/0.75 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                          | 2967950       |
| Packing unit                         | 10 pc         |
| Minimum order quantity               | 10 pc         |
| Sales key                            | DK69K2        |
| Product key                          | DK69K2        |
| GTIN                                 | 4017918190538 |
| Weight per piece (including packing) | 5.75 g        |
| Weight per piece (excluding packing) | 5.75 g        |
| Customs tariff number                | 85364110      |
| Country of origin                    | JP            |

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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 |
|------------------------------|------------|

### Electrical properties

|                                                 |                                      |
|-------------------------------------------------|--------------------------------------|
| Maximum power dissipation for nominal condition | 0.07 W                               |
| Test voltage (Input/output)                     | 2.5 kV (50 Hz, 1 min., input/output) |

### 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 $U_N$ | 0.35                    |
| Switching threshold "1" signal in reference to $U_N$ | 0.8                     |
| Typical input current at $U_N$                       | 6.6 mA                  |
| Typical response time                                | 10 ms (at $U_N$ )       |
| Typical turn-off time                                | 10 ms (at $U_N$ )       |
| Transmission frequency                               | 10 Hz                   |

### Output data

|                                                  |                                           |
|--------------------------------------------------|-------------------------------------------|
| Contact switching type                           | 1 N/O contact                             |
| Design of digital output                         | electronic                                |
| Output voltage range                             | 24 V AC ... 253 V AC                      |
| Limiting continuous current                      | 0.75 A (see derating curve)               |
| Maximum inrush current                           | 30 A (10 ms)                              |
| Min. load current                                | 10 mA                                     |
| Leakage current                                  | < 1 mA                                    |
| Phase angle $\cos \phi$ min                      | 0.5                                       |
| Max. load value                                  | 4.5 A <sup>2</sup> s                      |
| Voltage drop at max. limiting continuous current | < 1 V                                     |
| Output circuit                                   | 2-conductor floating, zero voltage switch |
| Protective circuit                               | RCV circuit; RCV circuit                  |

### Dimensions

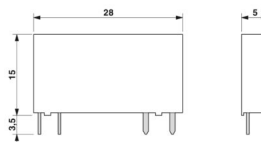
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## Dimensional drawing



|        |       |
|--------|-------|
| Width  | 5 mm  |
| Height | 28 mm |
| Depth  | 15 mm |

## Material specifications

|       |                  |
|-------|------------------|
| Color | black (RAL 9005) |
|-------|------------------|

## 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     | in rows with zero spacing |
| Mounting position | any                       |

# OPT-24DC/230AC/ 1 - Miniature solid-state relay

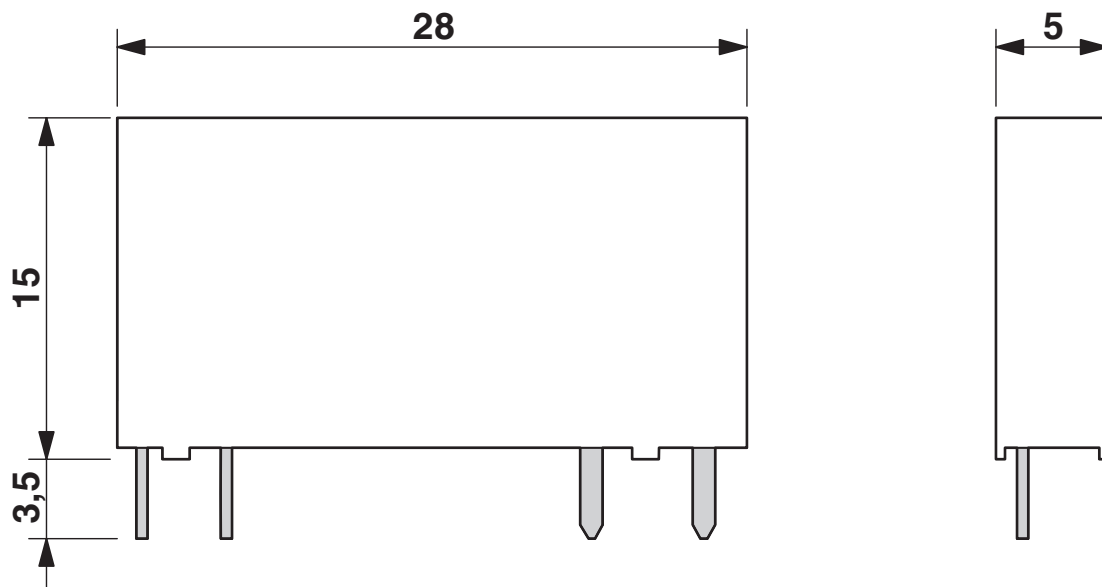
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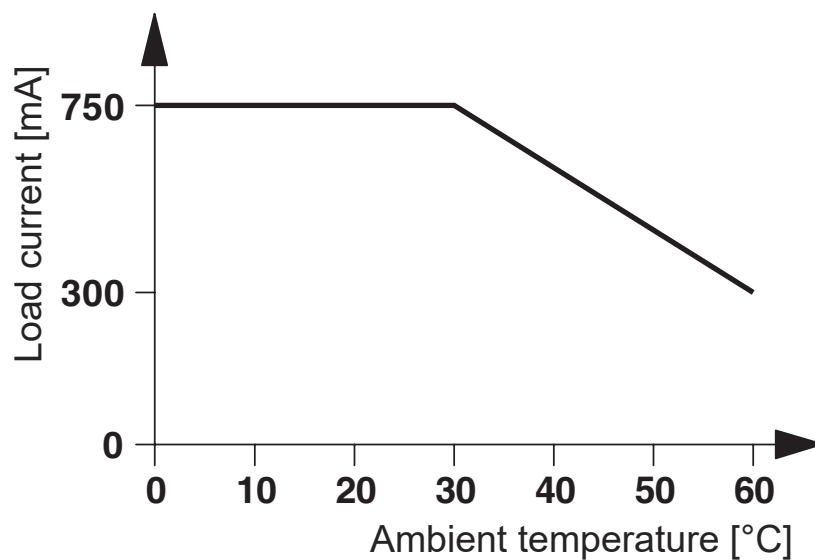


## Drawings

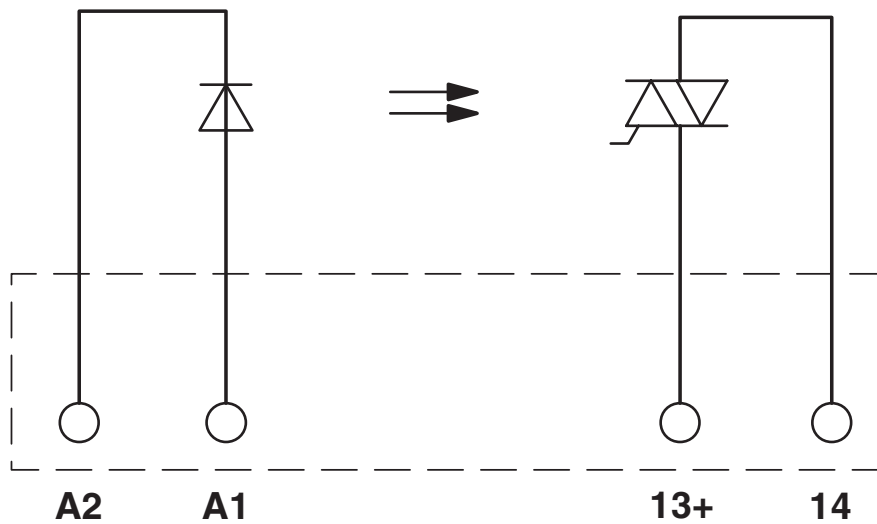
Dimensional drawing



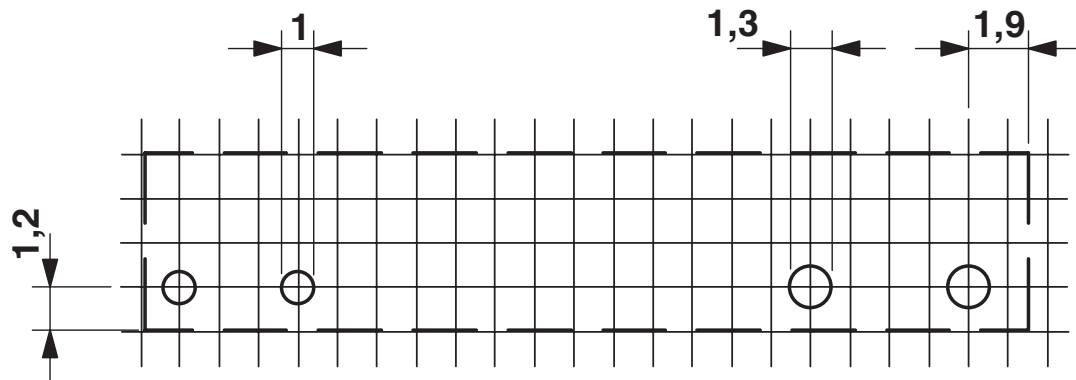
Diagram



Circuit diagram



Drilling plan/solder pad geometry



a = pitch division 1.25 mm and 1.27 mm

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/gb/products/2967950>



**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



**GL**  
Approval ID: 46016-03 HH

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27371604 |
| ECLASS-15.0 | 27371604 |

### ETIM

|          |          |
|----------|----------|
| ETIM 9.0 | EC001504 |
|----------|----------|

### UNSPSC

|             |          |
|-------------|----------|
| UNSPSC 21.0 | 39122300 |
|-------------|----------|

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## Environmental product compliance

### EU RoHS

|                                         |      |
|-----------------------------------------|------|
| Fulfills EU RoHS substance requirements | Yes  |
| Exemption                               | 7(a) |

### China RoHS

|                                        |                                          |
|----------------------------------------|------------------------------------------|
| Environment friendly use period (EFUP) | EFUP-E                                   |
|                                        | No hazardous substances above the limits |

### EU REACH SVHC

|                                     |                                      |
|-------------------------------------|--------------------------------------|
| REACH candidate substance (CAS No.) | Lead(CAS: 7439-92-1)                 |
| SCIP                                | a8af46d4-c21c-4cb5-b418-9348cf4fc9a7 |

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PHOENIX CONTACT Ltd  
Halesfield 13, Telford  
Shropshire, TF7 4PG  
01952 681700  
[info@phoenixcontact.co.uk](mailto:info@phoenixcontact.co.uk)