

# OPT- 5DC/ 24DC/ 2 - Miniature solid-state relay

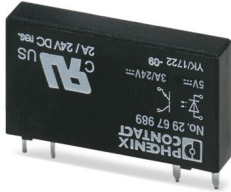


2967989

<https://www.phoenixcontact.com/us/products/2967989>

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Plug-in miniature solid-state relay, power solid-state relay, 1 N/O contact, input voltage: 5 V DC



## Your advantages

- Vibration and shock resistant
- RT III-proof (wash-proof)
- Wear-free and durable
- Can be soldered on PCB
- Switching power of up to 24 V DC/3 A

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 2967989       |
| Packing unit                         | 10 pc         |
| Minimum order quantity               | 10 pc         |
| Sales key                            | C460          |
| Product key                          | DK69K1        |
| GTIN                                 | 4017918820763 |
| Weight per piece (including packing) | 5.24 g        |
| Weight per piece (excluding packing) | 3.5 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 | 01.04.2026 |
|------------------------------|------------|

### Electrical properties

|   |                                      |
|---|--------------------------------------|
| Maximum power dissipation for nominal condition | 0.05 W                               |
| Test voltage (Input/output)                     | 2.5 kV (50 Hz, 1 min., input/output) |

### Input data

|  |                         |
|--|-------------------------|
| Nominal input voltage $U_N$                          | 5 V DC                  |
| Input voltage range in reference to $U_N$            | 0.8 ... 1.2             |
| Input voltage range                                  | 4 V DC ... 6 V DC       |
| Switching threshold "0" signal in reference to $U_N$ | 0.15                    |
| Switching threshold "1" signal in reference to $U_N$ | 0.5                     |
| Typical input current at $U_N$                       | 9 mA                    |
| Typical response time                                | 20 $\mu$ s (at $U_N$ )  |
| Typical turn-off time                                | 300 $\mu$ s (at $U_N$ ) |
| Transmission frequency                               | 300 Hz                  |

### Output data

|  |   |
|--|---|
| Contact switching type                           | 1 N/O contact                                   |
| Design of digital output                         | electronic                                      |
| Output voltage range                             | 3 V DC ... 33 V DC                              |
| Limiting continuous current                      | 3 A (see derating curve)                        |
| Maximum inrush current                           | 15 A (10 ms)                                    |
| Voltage drop at max. limiting continuous current | $\leq$ 150 mV                                   |
| Output circuit                                   | 2-conductor, floating                           |
| Protective circuit                               | Reverse polarity protection<br>Surge protection |

### Dimensions

#### Item dimensions

|        |       |
|--------|-------|
| Width  | 5 mm  |
| Height | 28 mm |

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

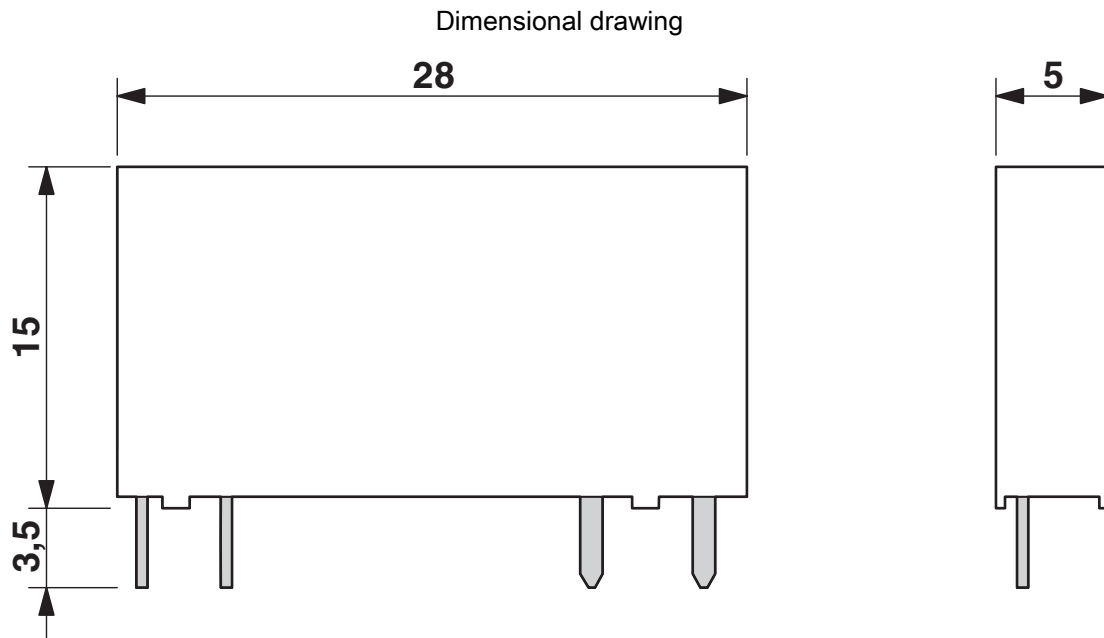
|                   |                           |
|-------------------|---------------------------|
| Assembly note     | in rows with zero spacing |
| Mounting position | any                       |

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## Drawings



Diagram



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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/us/products/2967989>



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



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



**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 10.0 | EC001504 |
|-----------|----------|

### 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% |
|-------------------------------------|----------------------------|

### EF3.1 Climate Change

|         |               |
|---------|---------------|
| CO2e kg | 0.608 kg CO2e |
|---------|---------------|

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Phoenix Contact USA  
586 Fulling Mill Road  
Middletown, PA 17057, United States  
(+717) 944-1300  
[info@phoenixcon.com](mailto:info@phoenixcon.com)