

# REL-MR- 60DC/21-21 - Single relay



2961273

<https://www.phoenixcontact.com/pc/products/2961273>

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Plug-in miniature power relay, with power contact, 2 changeover contacts, input voltage 60 V DC



## Your advantages

- RT III-proof (wash-proof)
- Switching current of up to 8 A

## Commercial data

|                                      |                     |
|--------------------------------------|---------------------|
| Item number                          | 2961273             |
| Packing unit                         | 10 pc               |
| Minimum order quantity               | 10 pc               |
| Sales key                            | 08                  |
| Product key                          | CK6935              |
| Catalog page                         | Page 290 (C-5-2019) |
| GTIN                                 | 4017918164034       |
| Weight per piece (including packing) | 16.23 g             |
| Weight per piece (excluding packing) | 14.2 g              |
| Customs tariff number                | 85364900            |
| Country of origin                    | AT                  |

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## Technical data

### Product properties

|                         |                           |
|-------------------------|---------------------------|
| Product type            | Single relay              |
| Operating mode          | 100% operating factor     |
| Mechanical service life | 3x 10 <sup>7</sup> cycles |

### Insulation characteristics

|            |                  |
|------------|------------------|
| Insulation | Basic insulation |
|------------|------------------|

### Insulation characteristics

|                      |                  |
|----------------------|------------------|
| Insulation           | Basic insulation |
| Overvoltage category | III              |
| Pollution degree     | 3                |

### Electrical properties

|                                                 |                                            |
|-------------------------------------------------|--------------------------------------------|
| Service life electrical                         | see diagram                                |
| Maximum power dissipation for nominal condition | 0.49 W                                     |
| Test voltage (Winding/contact)                  | 5 kV AC (50 Hz, 1 min., winding/contact)   |
| Test voltage (Contact/contact)                  | 2.5 kV AC (50 Hz, 1 min., contact/contact) |

### Input data

#### Coil side

|                                         |                         |
|-----------------------------------------|-------------------------|
| Nominal input voltage U <sub>N</sub>    | 60 V DC                 |
| Input voltage range                     | 39 V DC ... 148.8 V DC  |
| Drive and function                      | monostable              |
| Drive (polarity)                        | non-polarized           |
| Typical input current at U <sub>N</sub> | 8.2 mA                  |
| Typical response time                   | 7 ms                    |
| Typical release time                    | 3 ms                    |
| Coil resistance                         | 7340 Ω ±15 % (at 20 °C) |

### Output data

#### Switching

|                             |                       |
|-----------------------------|-----------------------|
| Contact switching type      | 2 changeover contacts |
| Type of switch contact      | Single contact        |
| Contact material            | AgNi                  |
| Maximum switching voltage   | 250 V AC/DC           |
| Minimum switching voltage   | 5 V (at 10 mA)        |
| Limiting continuous current | 8 A                   |
| Maximum inrush current      | 25 A (20 ms)          |
| Min. switching current      | 10 mA (At 5 V)        |
|                             | 190 W (at 24 V DC)    |

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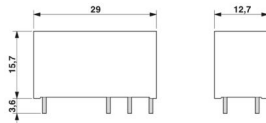
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|                                       |                        |
|---------------------------------------|------------------------|
| Interrupting rating (ohmic load) max. | 85 W (at 48 V DC)      |
|                                       | 60 W (at 60 V DC)      |
|                                       | 44 W (at 110 V DC)     |
|                                       | 60 W (at 220 V DC)     |
|                                       | 2000 VA (for 250 V AC) |
| Switching capacity                    | 2 A (at 24 V, DC13)    |
|                                       | 0.2 A (at 250 V, DC13) |
|                                       | 3 A (at 24 V, AC15)    |
|                                       | 3 A (at 120 V, AC15)   |
|                                       | 3 A (at 250 V, AC15)   |
| Motor load according to UL 508        | 1/4 HP, 120 V AC       |
|                                       | 1/2 HP, 240 V AC       |

## Connection data

|                   |                          |
|-------------------|--------------------------|
| Connection method | Plug / solder connection |
|-------------------|--------------------------|

## Dimensions

|                     |                                                                                      |
|---------------------|--------------------------------------------------------------------------------------|
| Dimensional drawing |  |
| Width               | 12.7 mm                                                                              |
| Height              | 29 mm                                                                                |
| Depth               | 15.7 mm                                                                              |

## Material specifications

|       |                  |
|-------|------------------|
| Color | white (RAL 9010) |
|-------|------------------|

## Environmental and real-life conditions

### Ambient conditions

|                                         |                  |
|-----------------------------------------|------------------|
| Degree of protection                    | RT III           |
| Ambient temperature (operation)         | -40 °C ... 85 °C |
| Ambient temperature (storage/transport) | -40 °C ... 85 °C |

## Approvals

### Corrosive gas test

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

## Standards and regulations

|                       |            |
|-----------------------|------------|
| Standards/regulations | IEC 60664  |
|                       | EN 50178   |
|                       | EN 61810-1 |

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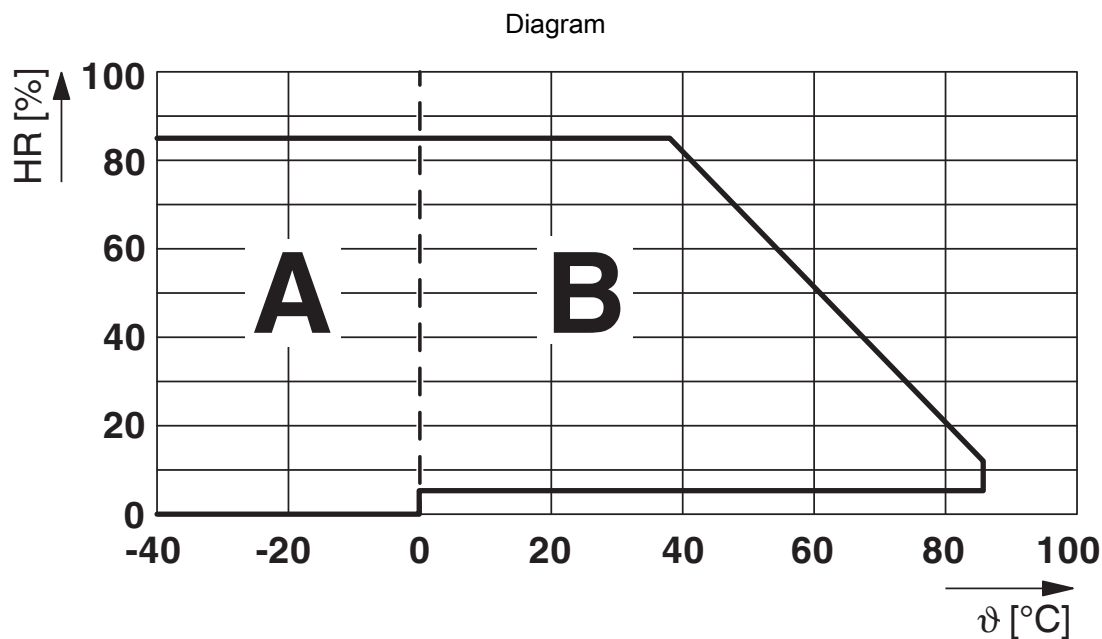
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## Mounting

|                   |                                                   |
|-------------------|---------------------------------------------------|
| Assembly note     | Can be aligned without spacing (> 70 °C ≥ 2.5 mm) |
| Mounting position | any                                               |

## Drawings



Permissible humidity for operation and storage.

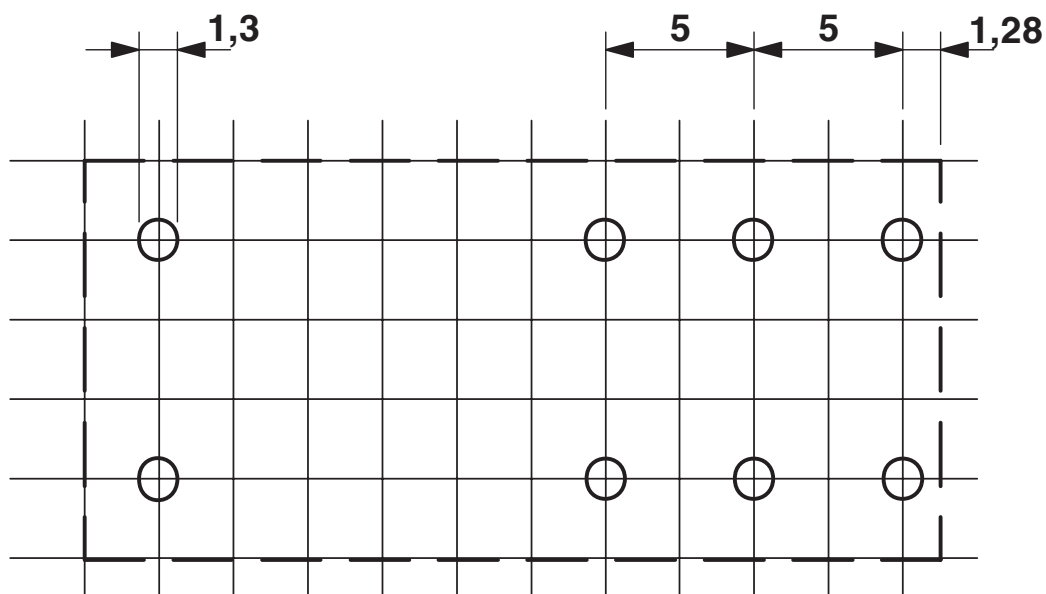
The maximum permissible ambient temperature as specified in the data sheet must be observed.

Area A: Ice buildup at ambient temperatures  $\leq 0^{\circ}\text{C}$  must be prevented

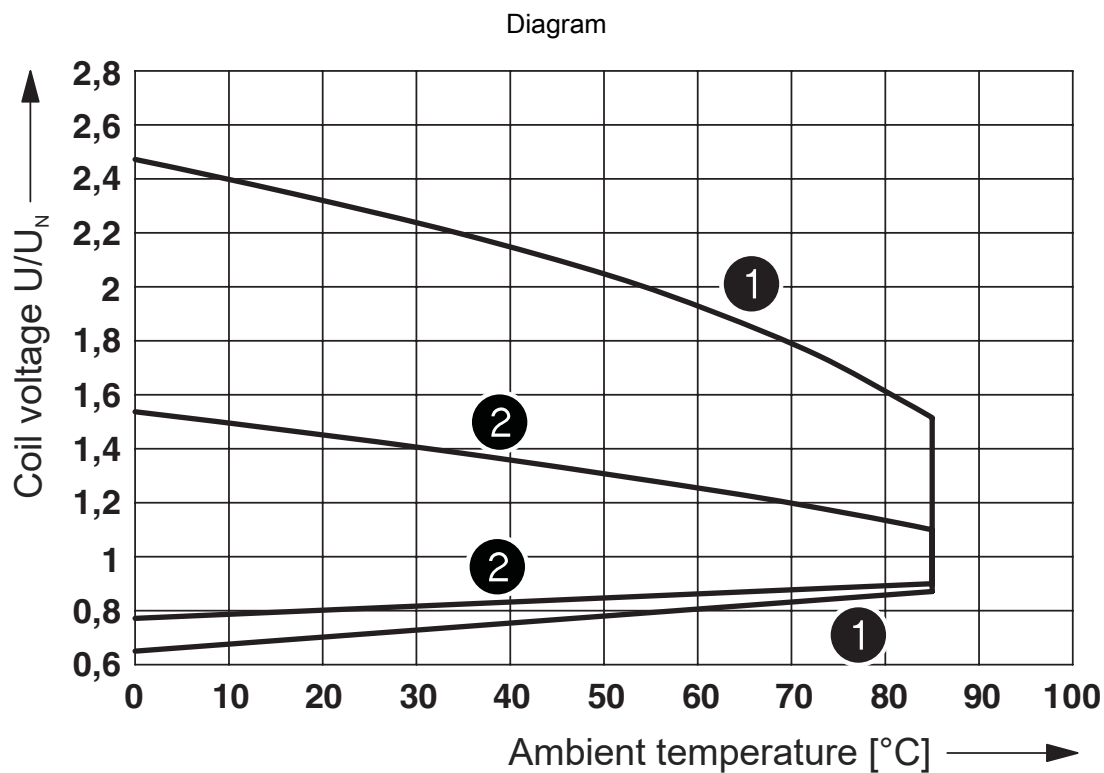
Area B: Condensation at ambient temperatures  $> 0^{\circ}\text{C}$  must be prevented

On 30 full days that are naturally distributed across an entire year, a humidity level of 95% is permissible at an ambient temperature  $\leq 25^{\circ}\text{C}$ .

Drilling plan/solder pad geometry

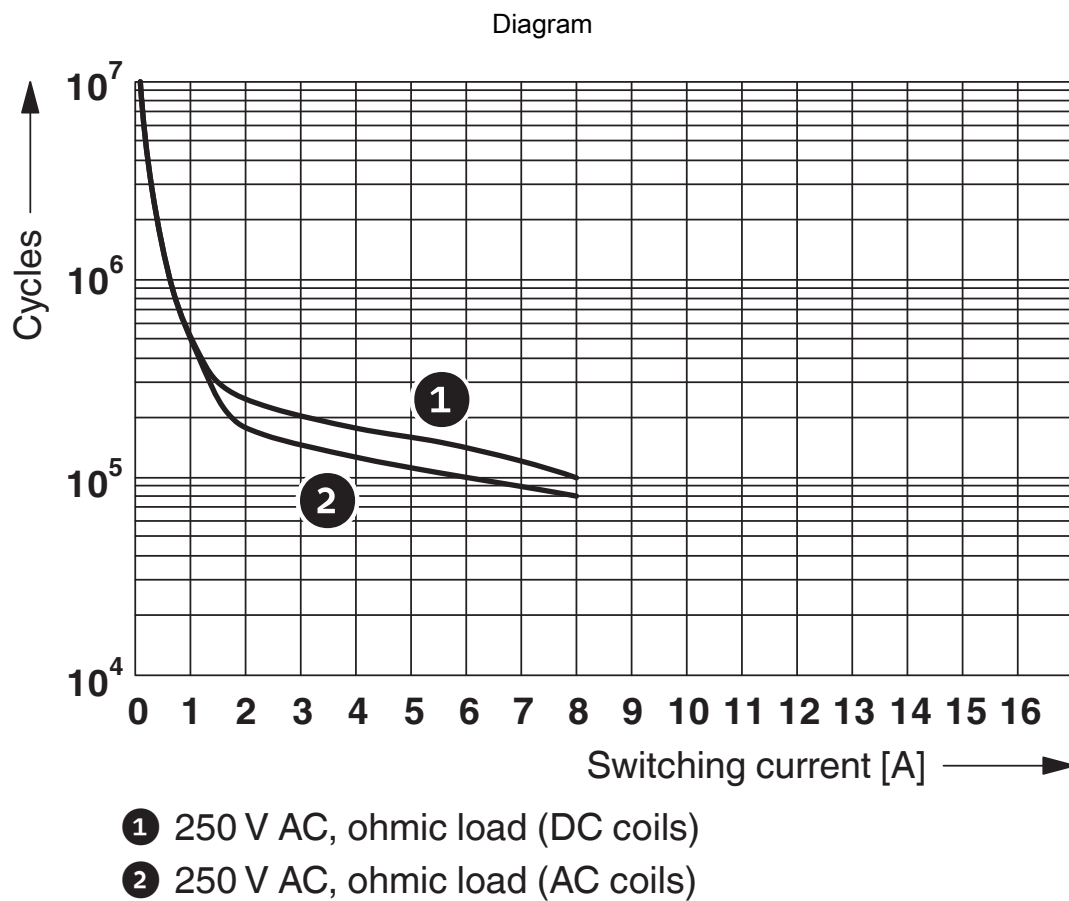


a = pitch division 2.5 mm



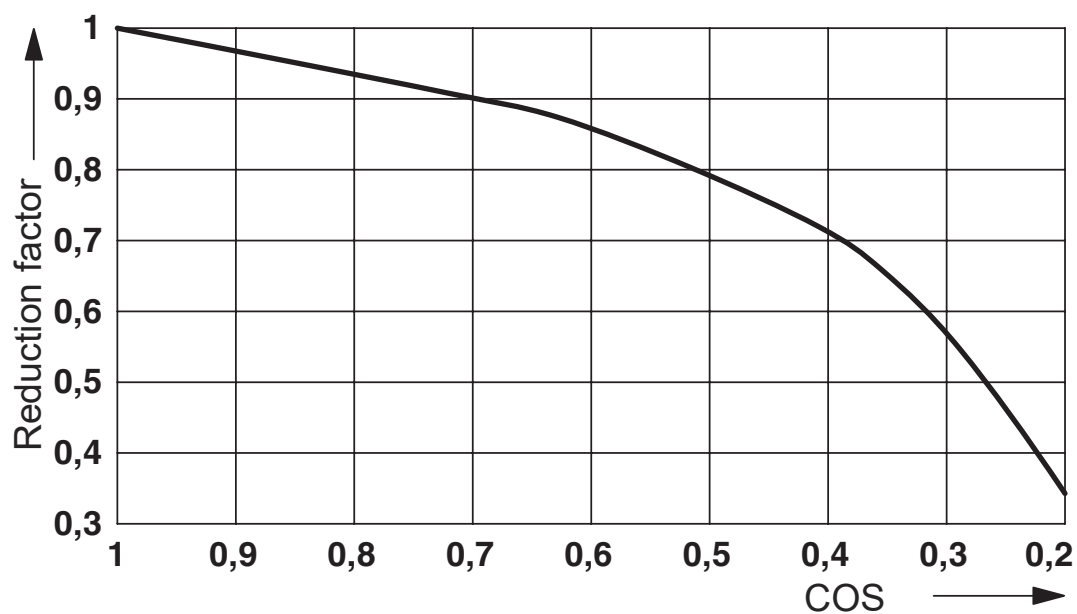
- ① DC coils  
② AC coils

Operating voltage range



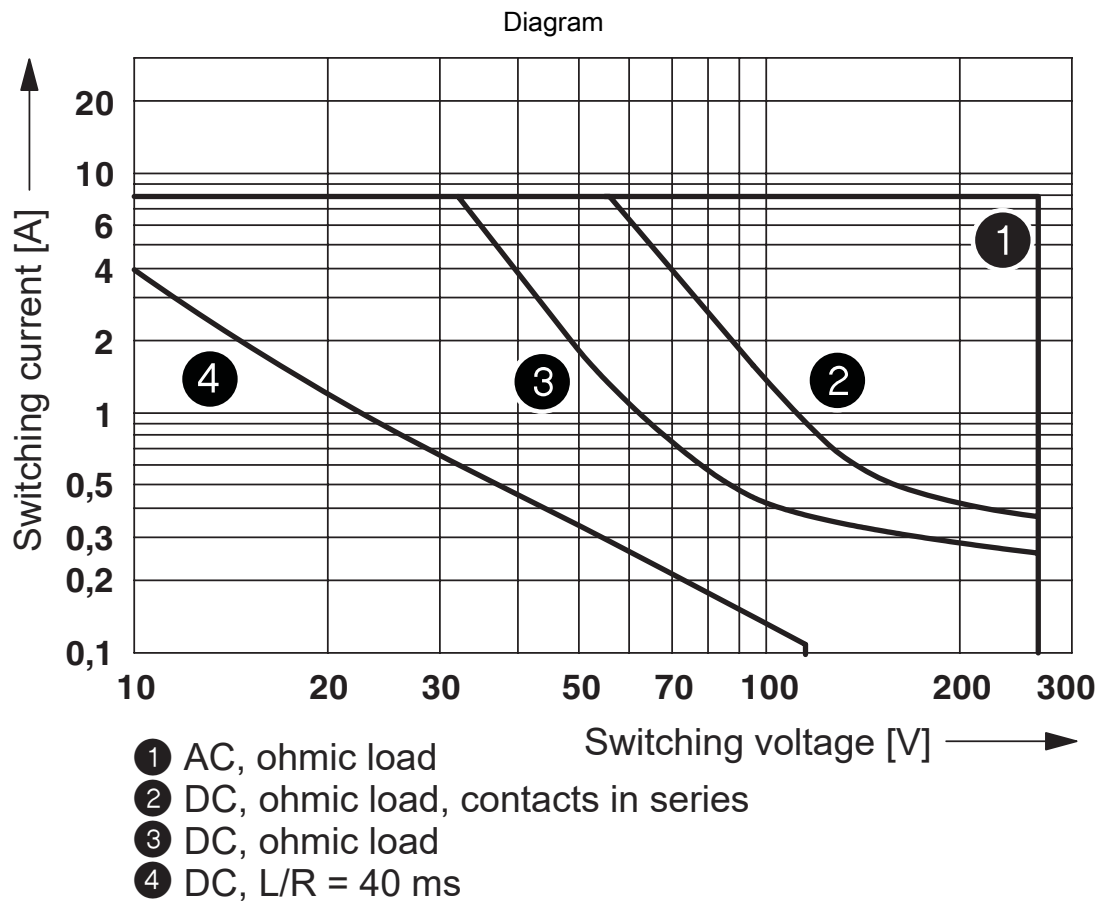
Electrical service life

Diagram



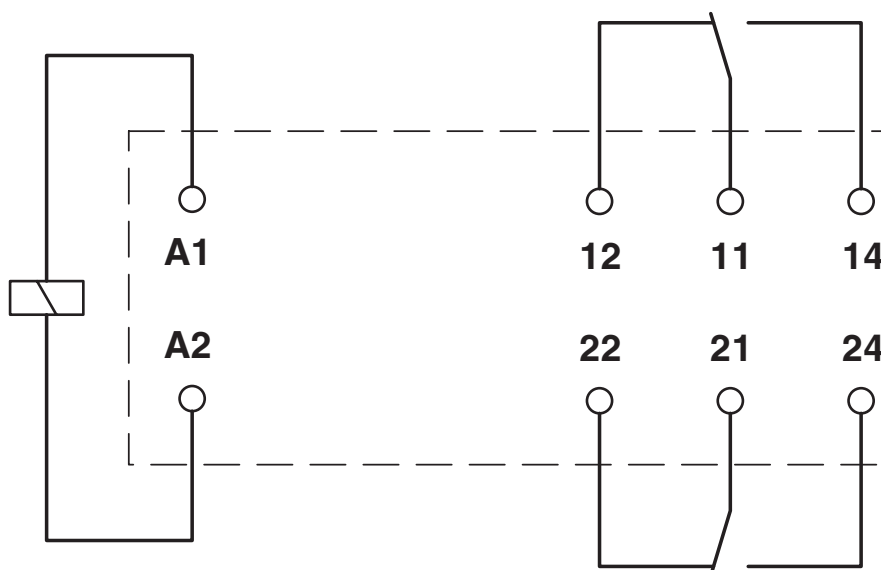
Service life reduction factor with various cos phi





Interrupting rating

Circuit diagram



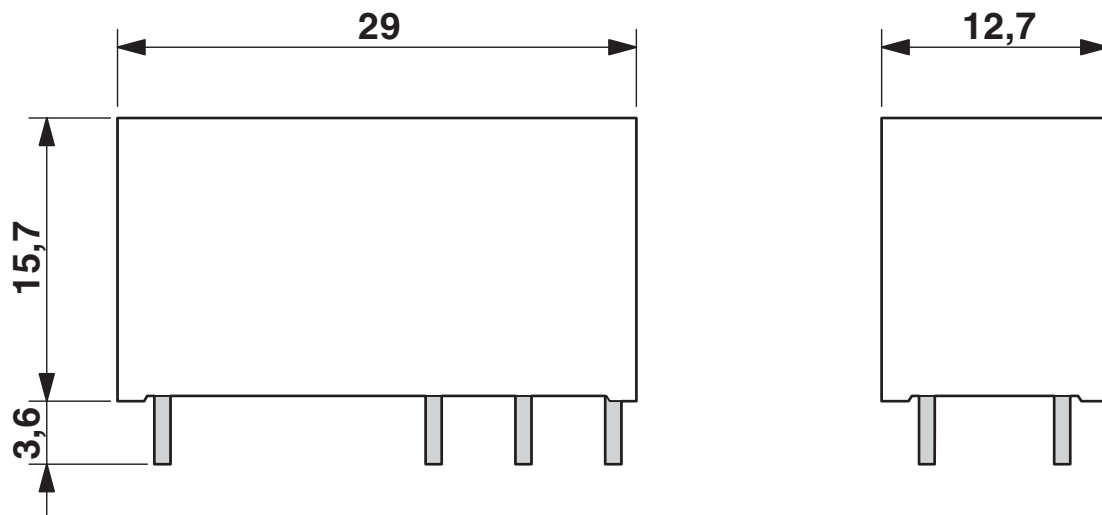
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Dimensional drawing



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## Approvals

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**cUL Recognized**  
Approval ID: FILE E 228652



**UL Recognized**  
Approval ID: FILE E 228652



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



**UL Recognized**  
Approval ID: FILE E 228652



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



**VDE Zeichengenehmigung**  
Approval ID: 40007758



**cUL Recognized**  
Approval ID: FILE E 228652

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-11.0 | 27371601 |
| ECLASS-12.0 | 27371601 |
| ECLASS-13.0 | 27371601 |

### ETIM

|          |          |
|----------|----------|
| ETIM 9.0 | EC001437 |
|----------|----------|

### UNSPSC

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

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## Environmental product compliance

|                                         |                                          |
|-----------------------------------------|------------------------------------------|
| EU RoHS                                 |                                          |
| Fulfills EU RoHS substance requirements | Yes, No exemptions                       |
| 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%               |

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