

# REL-MR-110DC/21HC AU - Single relay



2961561

<https://www.phoenixcontact.com/us/products/2961561>

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Plug-in miniature power relay, with multi-layer gold contact for high continuous currents, 1 changeover contact, input voltage 110 V DC

## Your advantages

- RT III-proof (wash-proof)
- Switching current of up to 16 A

## Commercial data

|                                      |                                |
|--------------------------------------|--------------------------------|
| Item number                          | 2961561                        |
| Packing unit                         | 10 pc                          |
| Minimum order quantity               | 10 pc                          |
| Note                                 | Made to order (non-returnable) |
| Sales key                            | C460                           |
| Product key                          | DK6932                         |
| GTIN                                 | 4017918937959                  |
| Weight per piece (including packing) | 17.23 g                        |
| Weight per piece (excluding packing) | 15.56 g                        |
| Customs tariff number                | 85364900                       |
| Country of origin                    | AT                             |

## Technical data

### Product properties

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

### Insulation characteristics

|                      |     |
|----------------------|-----|
| Overvoltage category | III |
| Pollution degree     | 3   |

### Data management status

|                              |            |
|------------------------------|------------|
| Date of last data management | 05.09.2025 |
|------------------------------|------------|

### Electrical properties

|   |  |
|---|--|
| Service life electrical                         | see diagram                              |
| Maximum power dissipation for nominal condition | 0.45 W                                   |
| Test voltage (Winding/contact)                  | 5 kV AC (50 Hz, 1 min., winding/contact) |

### Input data

#### Coil side

|                                |                                      |
|--------------------------------|--------------------------------------|
| Nominal input voltage $U_N$    | 110 V DC                             |
| Input voltage range            | 71.5 V DC ... 264 V DC               |
| Drive and function             | monostable                           |
| Drive (polarity)               | non-polarized                        |
| Typical input current at $U_N$ | 4.1 mA                               |
| Typical response time          | 7 ms                                 |
| Typical release time           | 3 ms                                 |
| Coil resistance                | 26600 $\Omega$ $\pm$ 15 % (at 20 °C) |

### Output data

#### Switching

|                                       |                        |
|---------------------------------------|------------------------|
| Contact switching type                | 1 changeover contact   |
| Type of switch contact                | Single contact         |
| Contact material                      | AgNi, hard gold-plated |
| Maximum switching voltage             | 30 V AC<br>36 V DC     |
| Minimum switching voltage             | 100 mV (at 10 mA)      |
| Limiting continuous current           | 50 mA                  |
| Maximum inrush current                | 50 mA                  |
| Min. switching current                | 1 mA (at 24 V)         |
| Interrupting rating (ohmic load) max. | 1.2 W (at 24 V DC)     |
| Switching capacity                    | 2 A (at 24 V, AC15)    |

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Switching: when the gold layer is destroyed

|                                       |  |
|---------------------------------------|--|
| Note                                  | the following values are applicable if a gold layer is destroyed |
| Contact material                      | AgNi   |
| Maximum switching voltage             | 250 V  |
| Minimum switching voltage             | 12 V (at 10 mA)  |
| Limiting continuous current           | 16 A   |
| Maximum inrush current                | 50 A (20 ms)   |
| Min. switching current                | 10 mA (at 12 V)  |
| Interrupting rating (ohmic load) max. | 384 W (at 24 V DC)   |
|                                       | 58 W (at 48 V DC)  |
|                                       | 48 W (at 60 V DC)  |
|                                       | 50 W (at 110 V DC)   |
|                                       | 80 W (at 220 V DC)   |
|                                       | 4000 VA (for 250 V AC)   |
| Switching capacity                    | 2 A (at 24 V, DC13)  |
|                                       | 0.2 A (at 110 V, DC13)   |
|                                       | 0.2 A (at 250 V, DC13)   |
|                                       | 2 A (at 24 V, AC15)  |
|                                       | 2 A (at 120 V, AC15)   |
|                                       | 2 A (at 250 V, AC15)   |

## 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

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

## Mounting

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

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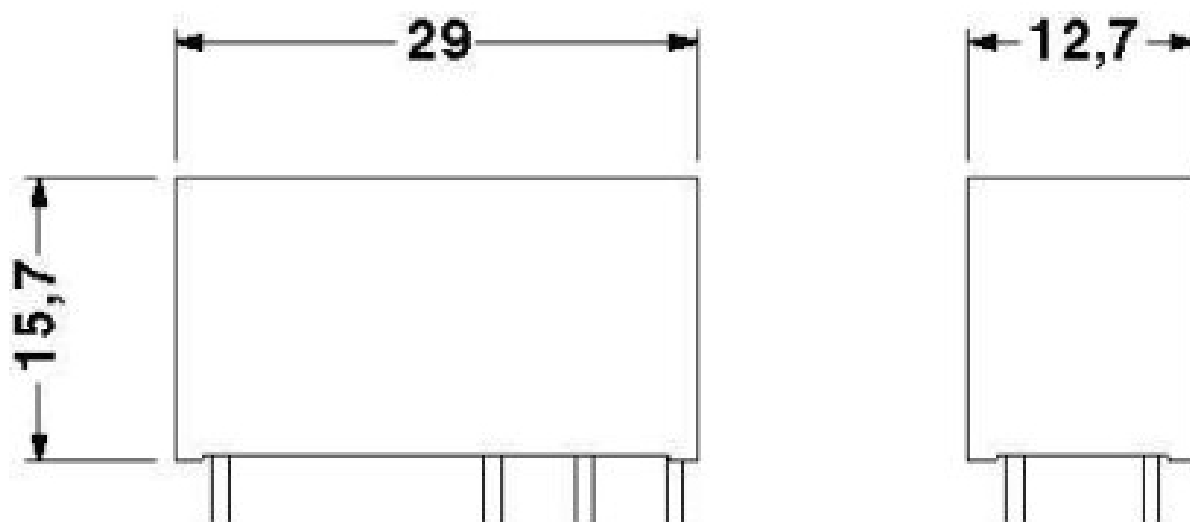


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## Drawings

### Dimensional drawing

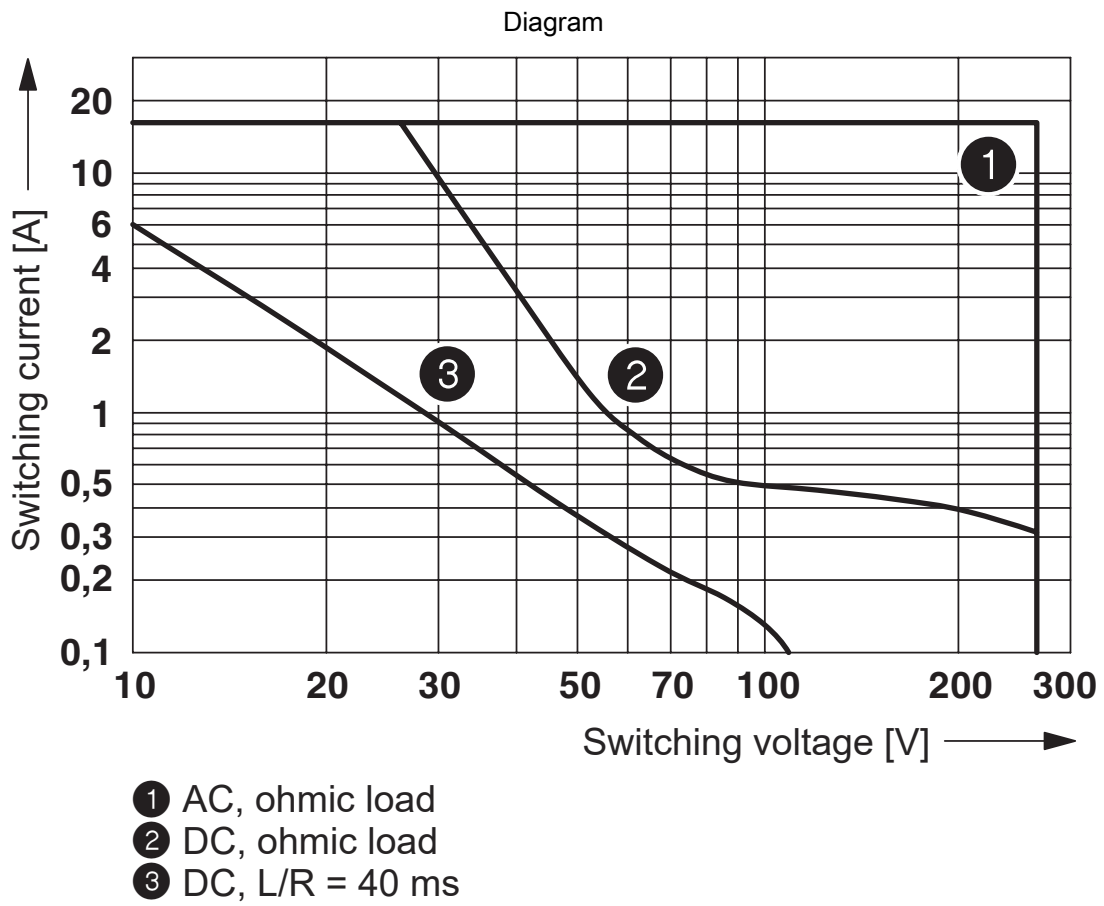


Diagram



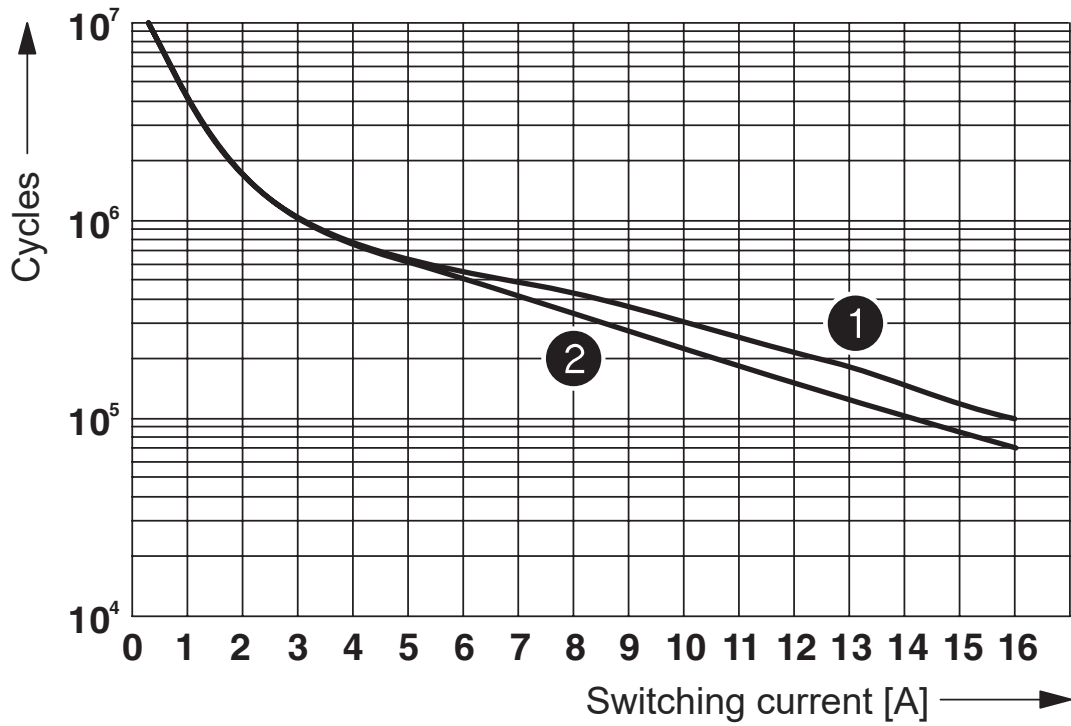
- ① DC coils
- ② AC coils

Operating voltage range



Interrupting rating

Diagram



- ① 250 V AC, ohmic load (DC coils)
- ② 250 V AC, ohmic load (AC coils)

Electrical service life

Diagram



Service life reduction factor with various cos phi

Diagram



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

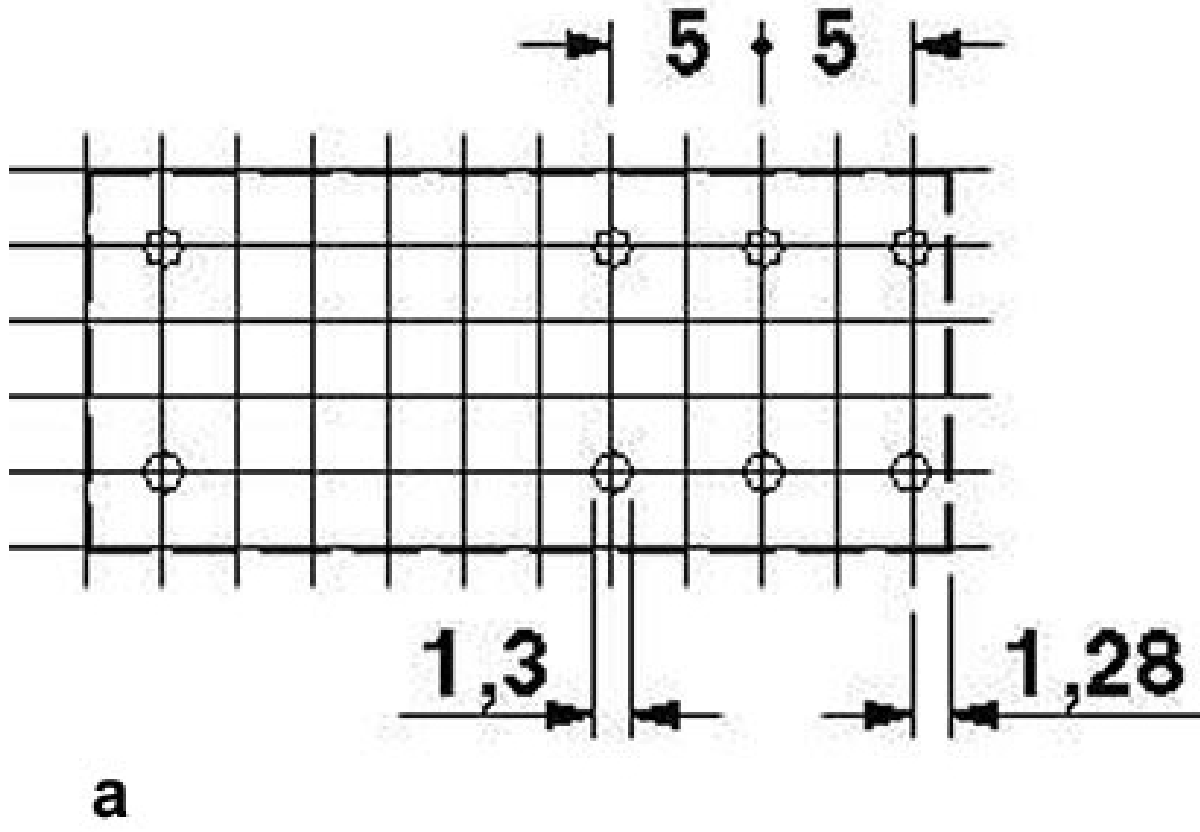
Area B: Condensation at ambient temperatures  $> 0^\circ\text{C}$  must be prevented

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

Circuit diagram



Drilling plan/solder pad geometry



a = pitch division 2.5 mm

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## Classifications

### ECLASS

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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