

# REL-MR-110DC/21-21/EX - Single relay



2908824

<https://www.phoenixcontact.com/us/products/2908824>

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Plug-in miniature power relay, RT III sealed with power contacts, 2 changeover contacts, input voltage: 110 V DC, in connection with the corresponding PLC base approved in accordance with ATEX/IECEx (zone 2) and Ex zone class I, div. 2.

## Your advantages

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

## Commercial data

|                                      |                                |
|--------------------------------------|--------------------------------|
| Item number                          | 2908824                        |
| Packing unit                         | 10 pc                          |
| Minimum order quantity               | 10 pc                          |
| Note                                 | Made to order (non-returnable) |
| Sales key                            | C460                           |
| Product key                          | CK6195                         |
| GTIN                                 | 4055626345185                  |
| Weight per piece (including packing) | 15.9 g                         |
| Weight per piece (excluding packing) | 15.9 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 | 0.45 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>    | 110 V DC                 |
| Input voltage range                     | 71.5 V DC ... 272.8 V DC |
| Drive and function                      | monostable               |
| Drive (polarity)                        | non-polarized            |
| Typical input current at U <sub>N</sub> | 4.1 mA                   |
| Typical response time                   | 7 ms                     |
| Typical release time                    | 3 ms                     |
| Coil resistance                         | 26600 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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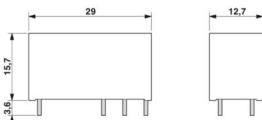
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|                                       |                        |
|---------------------------------------|------------------------|
| Interrupting rating (ohmic load) max. | 85 W (at 48 V DC)      |
|                                       | 60 W (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)   |

## Connection data

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

## Dimensions

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

## Material specifications

|       |                   |
|-------|-------------------|
| Color | orange (RAL 2003) |
|-------|-------------------|

## 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 |

## Mounting

# REL-MR-110DC/21-21/EX - Single relay



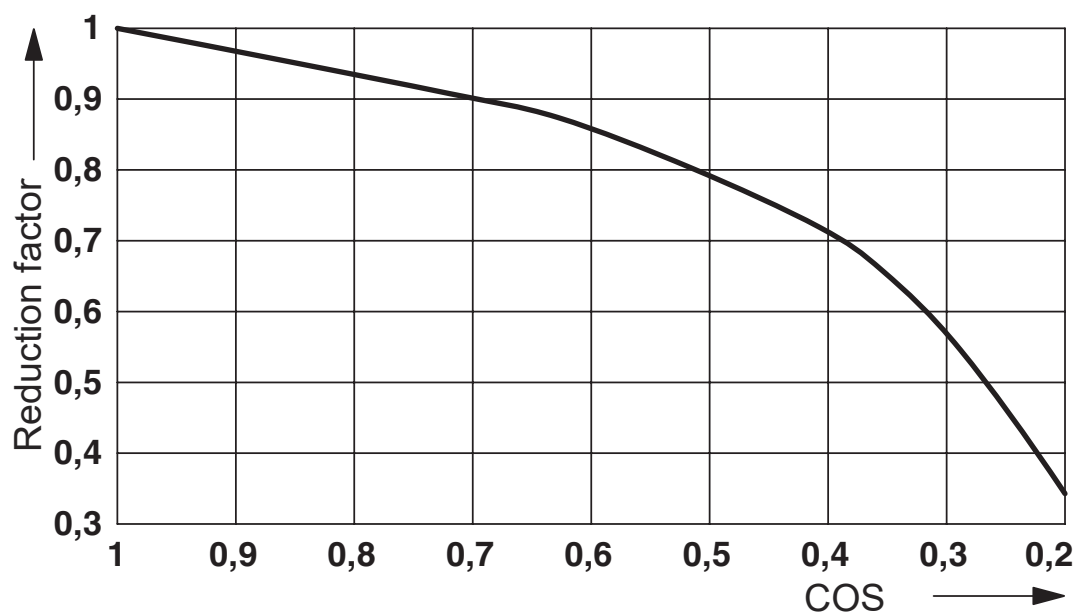
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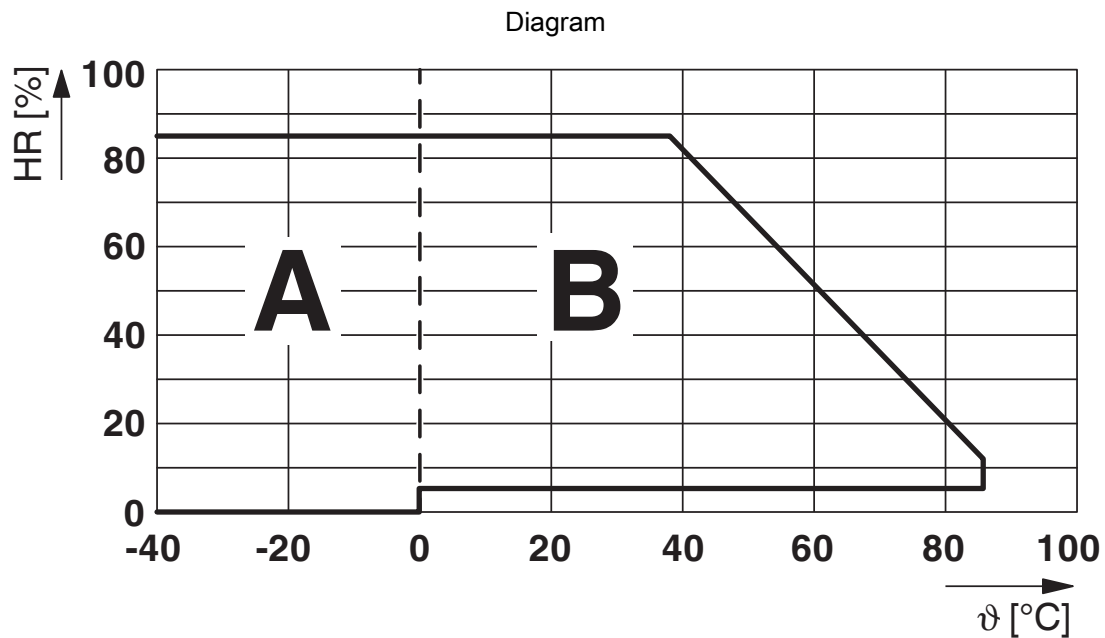
|                       |                                                                        |
|-----------------------|------------------------------------------------------------------------|
| Assembly instructions | Can be aligned without spacing ( $> 70\text{ °C} \geq 2.5\text{ mm}$ ) |
| Mounting position     | any                                                                    |

## Drawings

Diagram



Service life reduction factor with various cos phi



Permissible humidity for operation and storage.

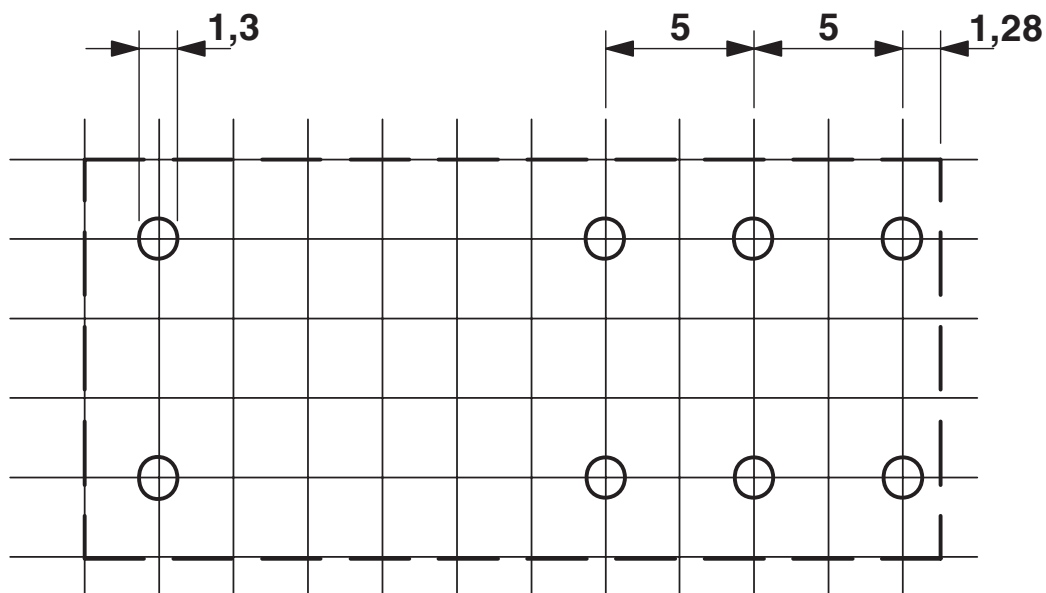
The maximum permissible ambient temperature as specified in the data sheet must be observed.

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

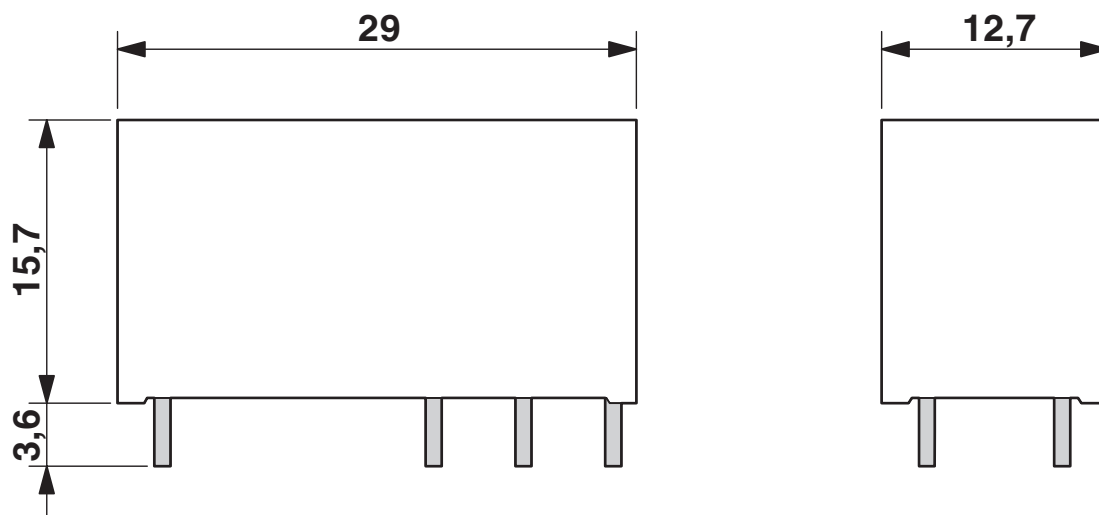
# REL-MR-110DC/21-21/EX - Single relay

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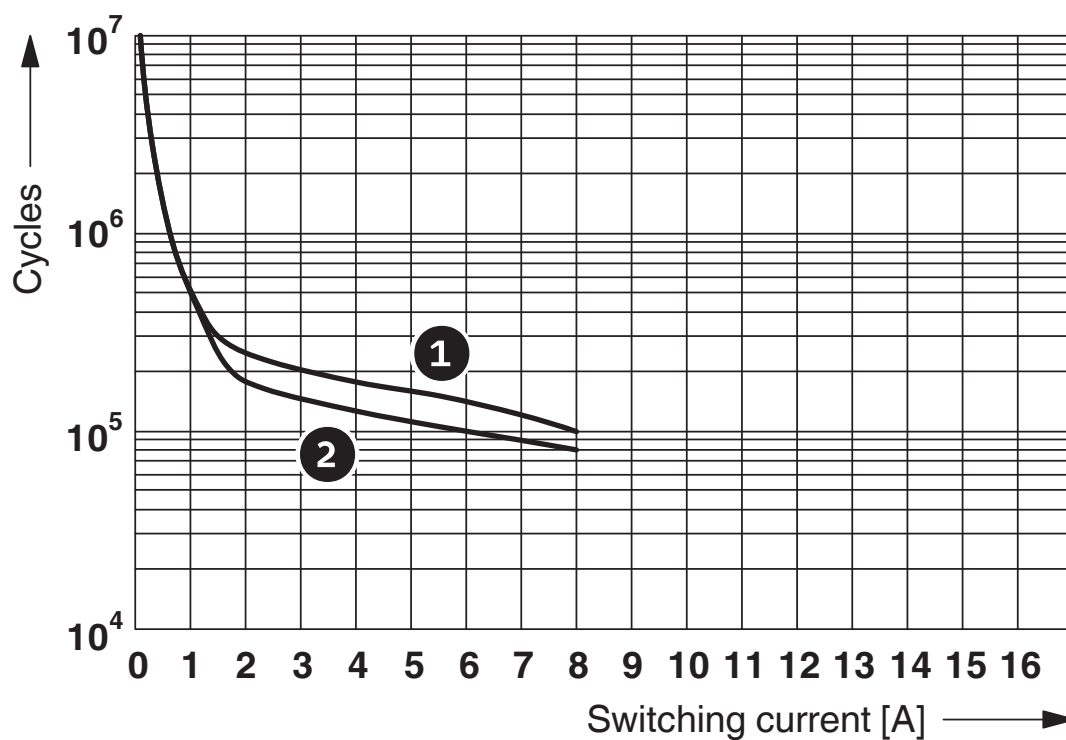
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Dimensional drawing



Diagram



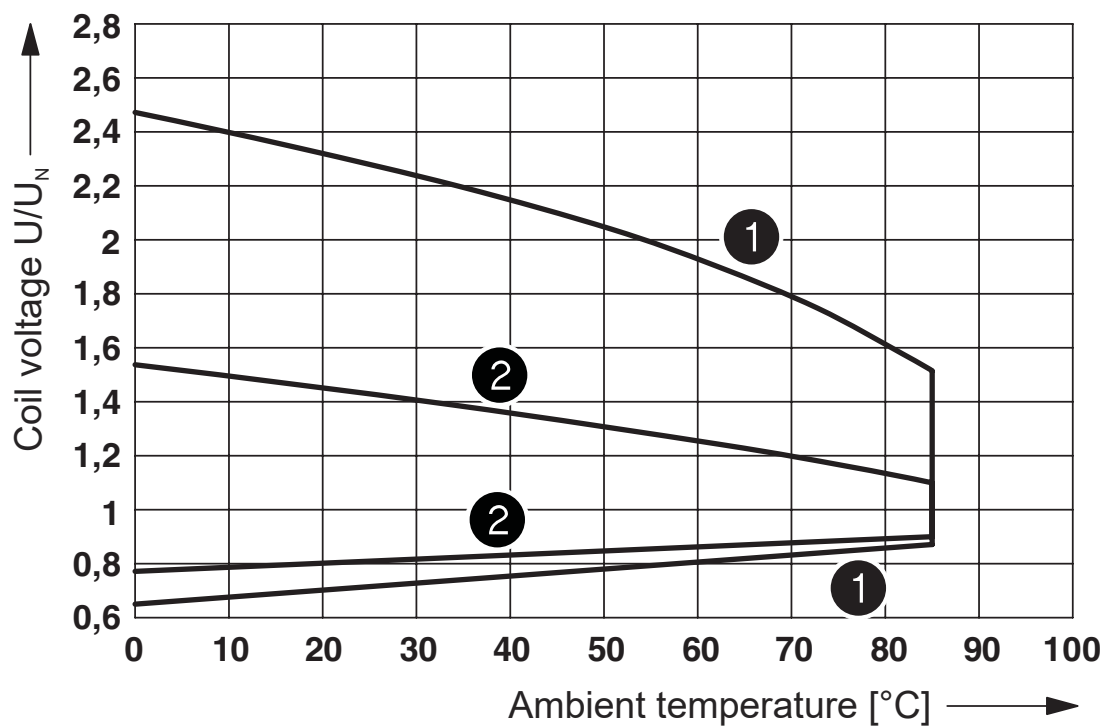
- ① 250 V AC, ohmic load (DC coils)
- ② 250 V AC, ohmic load (AC coils)

Electrical service life



Interrupting rating

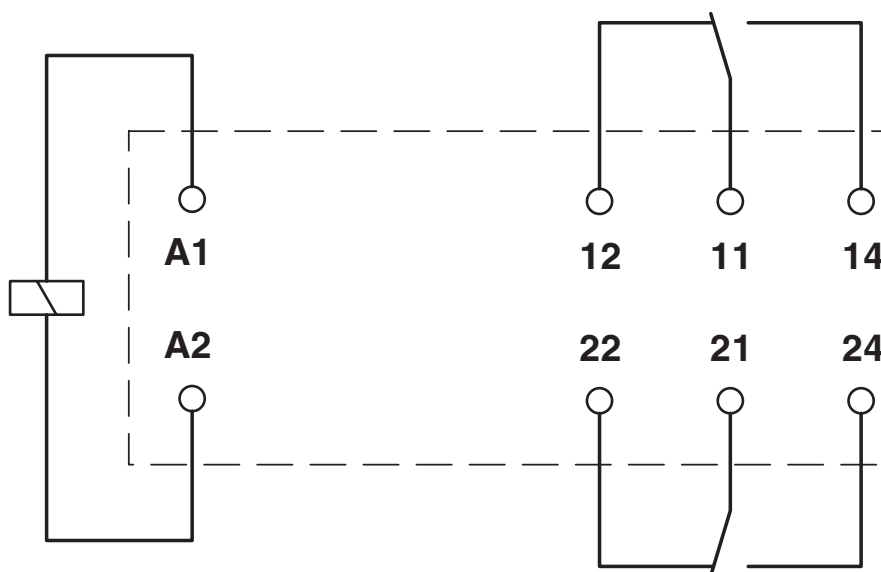
Diagram



- ① DC coils
- ② AC coils

Operating voltage range

Circuit diagram



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2908824>



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



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



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



**VDE Zeichengenehmigung**  
Approval ID: 40007758



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

**cULus Recognized**

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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

|            |                                                         |
|------------|---------------------------------------------------------|
| China RoHS | Environmentally friendly use period: unlimited = EFUP-e |
|            | No hazardous substances above threshold values          |

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