

# REL-MR- 24AC/21HC - Single relay



2961406

<https://www.phoenixcontact.com/gb/products/2961406>

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Plug-in miniature power relay, with power contact for high continuous currents, 1 changeover contact, input voltage 24 V AC

## Your advantages

- Switching current of up to 16 A

## Commercial data

|                                      |                     |
|--------------------------------------|---------------------|
| Item number                          | 2961406             |
| Packing unit                         | 10 pc               |
| Minimum order quantity               | 10 pc               |
| Sales key                            | CK6195              |
| Product key                          | CK6195              |
| Catalog page                         | Page 290 (C-5-2019) |
| GTIN                                 | 4017918937812       |
| Weight per piece (including packing) | 16.18 g             |
| Weight per piece (excluding packing) | 15.06 g             |
| Customs tariff number                | 85364190            |
| Country of origin                    | AT                  |

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## Technical data

### Product properties

|                         |                           |
|-------------------------|---------------------------|
| Product type            | Single relay              |
| Operating mode          | 100% operating factor     |
| Mechanical service life | 1x 10 <sup>7</sup> cycles |

### Insulation characteristics

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

### Electrical properties

|                                                 |                                          |
|-------------------------------------------------|------------------------------------------|
| Service life electrical                         | see diagram                              |
| Maximum power dissipation for nominal condition | 0.77 W                                   |
| Test voltage (Winding/contact)                  | 5 kV AC (50 Hz, 1 min., winding/contact) |

### Input data

#### Coil side

|                                                    |                                              |
|----------------------------------------------------|----------------------------------------------|
| Nominal input voltage U <sub>N</sub>               | 24 V AC                                      |
| Input voltage range                                | 18.72 V AC ... 37.2 V AC                     |
| Input voltage range in reference to U <sub>N</sub> | see diagram                                  |
| Mains frequency                                    | 50/60 Hz                                     |
| Drive and function                                 | monostable                                   |
| Drive (polarity)                                   | non-polarized                                |
| Typical input current at U <sub>N</sub>            | 32 mA (50 Hz)<br>24 mA (60 Hz)               |
| Typical response time                              | 3 ms ... 12 ms (depending on phase relation) |
| Typical release time range                         | 2 ms ... 9 ms (depending on phase relation)  |
| Coil resistance                                    | 350 Ω ±10 % (at 20 °C)                       |

### Output data

#### Switching

|                                       |                                                              |
|---------------------------------------|--------------------------------------------------------------|
| Contact switching type                | 1 changeover contact                                         |
| Type of switch contact                | Single contact                                               |
| Contact material                      | AgNi                                                         |
| Maximum switching voltage             | 250 V AC/DC                                                  |
| Minimum switching voltage             | 12 V (at 10 mA)                                              |
| Limiting continuous current           | 16 A                                                         |
| Maximum inrush current                | 25 A (20 ms)                                                 |
| Min. switching current                | 10 mA (at 12 V)                                              |
| Interrupting rating (ohmic load) max. | 384 W (at 24 V DC)<br>58 W (at 48 V DC)<br>48 W (at 60 V DC) |

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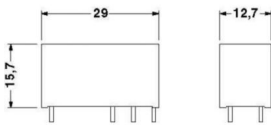


|                                |                                |
|--------------------------------|--------------------------------|
| Switching capacity             | 50 W (at 110 V DC)             |
|                                | 80 W (at 220 V DC)             |
|                                | 4000 VA (for 250 V AC)         |
|                                | 2 A (at 24 V, DC13)            |
|                                | 0.2 A (at 110 V, DC13)         |
|                                | 0.2 A (at 250 V, DC13)         |
|                                | 6 A (at 24 V, AC15)            |
|                                | 6 A (at 120 V, AC15)           |
| Motor load according to UL 508 | 6 A (at 250 V, AC15)           |
|                                | 1/2 HP, 120 V AC (N/O contact) |
|                                | 1 HP, 240 V AC (N/O contact)   |
|                                | 1/3 HP, 120 V AC (N/C contact) |
|                                | 3/4 HP, 240 V AC (N/C contact) |
|                                | 1/4 HP, 200 ... 250 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 II            |
| 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 |

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|  |               |
|--|---------------|
|  | EN 60068-2-60 |
|--|---------------|

## Standards and regulations

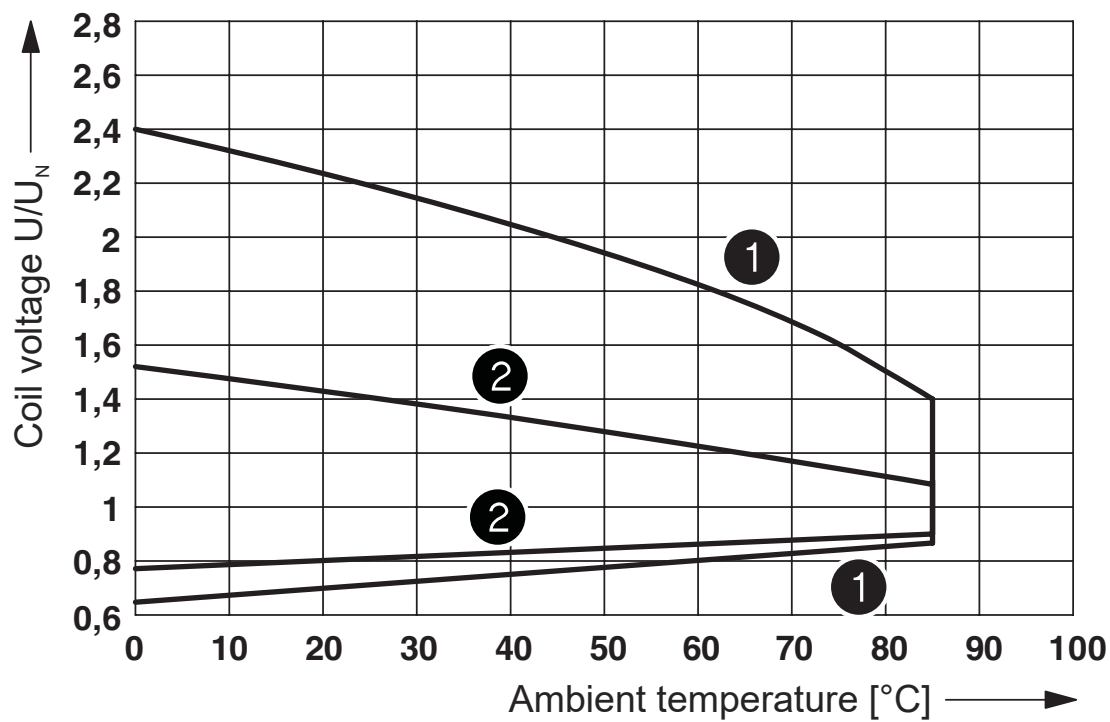
|                       |            |
|-----------------------|------------|
| Standards/regulations | IEC 60664  |
|                       | EN 50178   |
|                       | EN 61810-1 |

## Mounting

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

## Drawings

Diagram



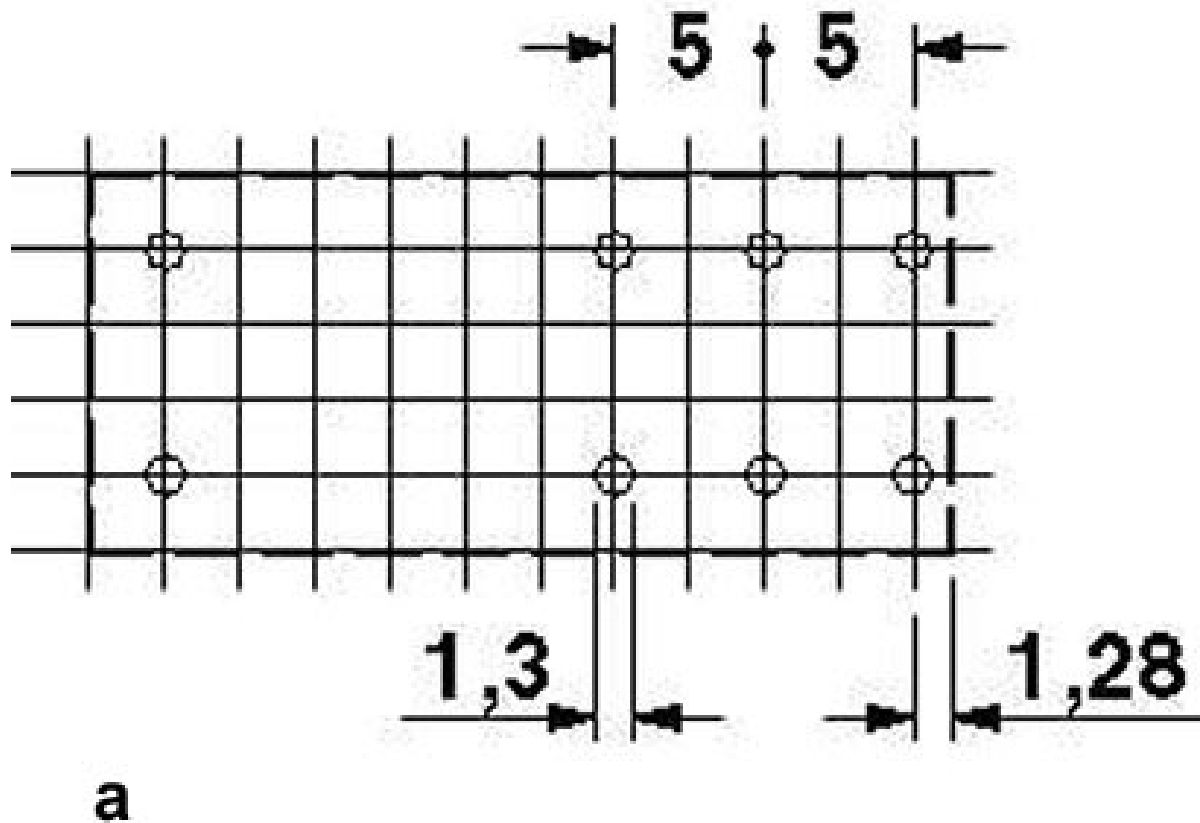
- ① DC coils
- ② AC coils

Operating voltage range

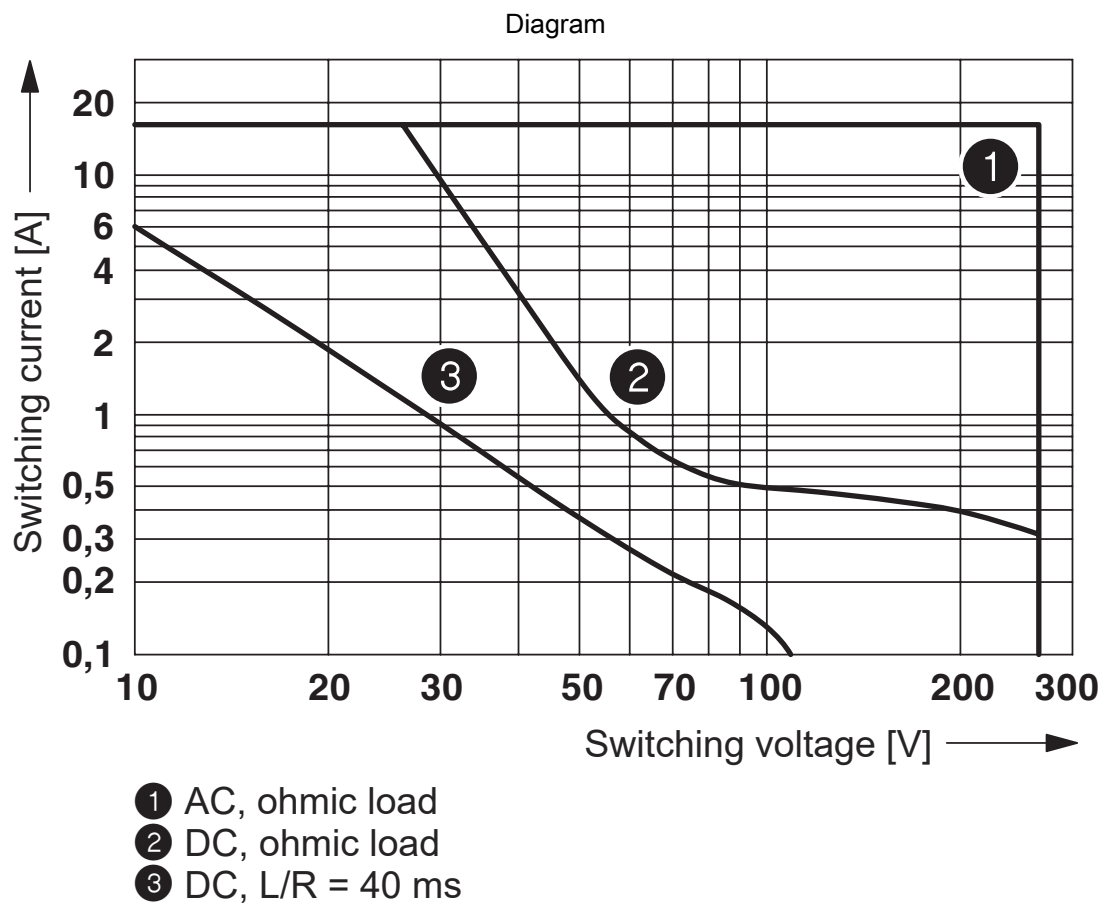
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## Drilling plan/solder pad geometry



a = pitch division 2.5 mm



Interrupting rating

Diagram



Service life reduction factor with various cos phi



Permissible humidity for operation and storage.

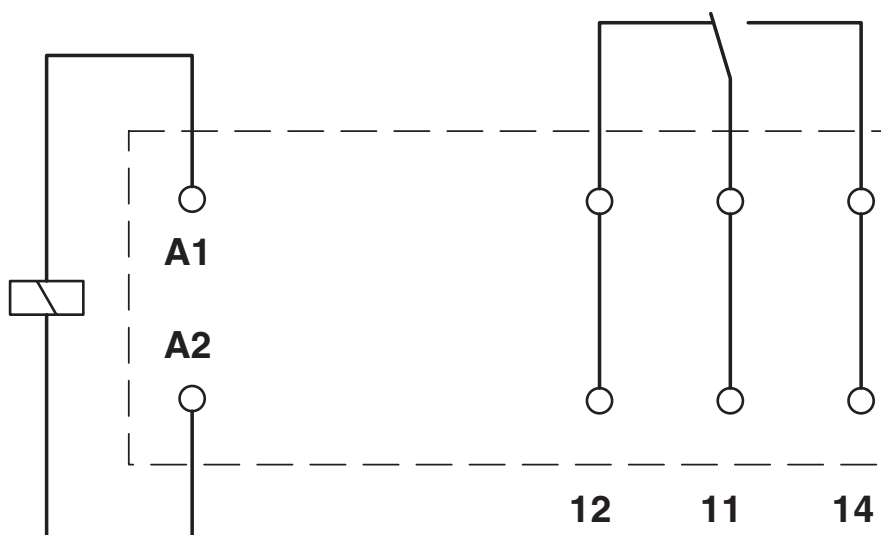
The maximum permissible ambient temperature as specified in the data sheet must be observed.

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  $\leq 25^{\circ}\text{C}$ .

Circuit diagram



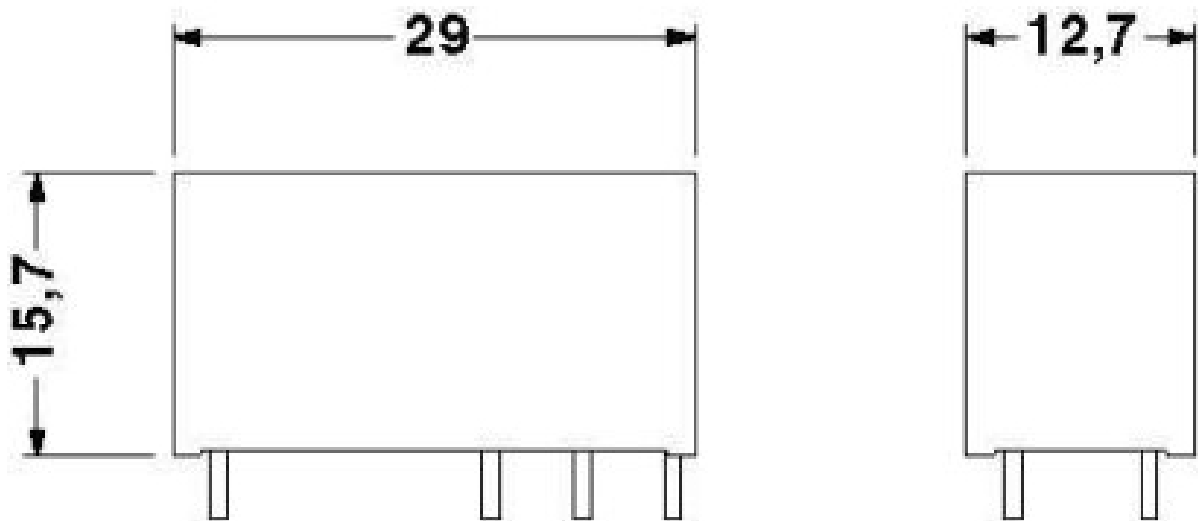
# REL-MR- 24AC/21HC - Single relay

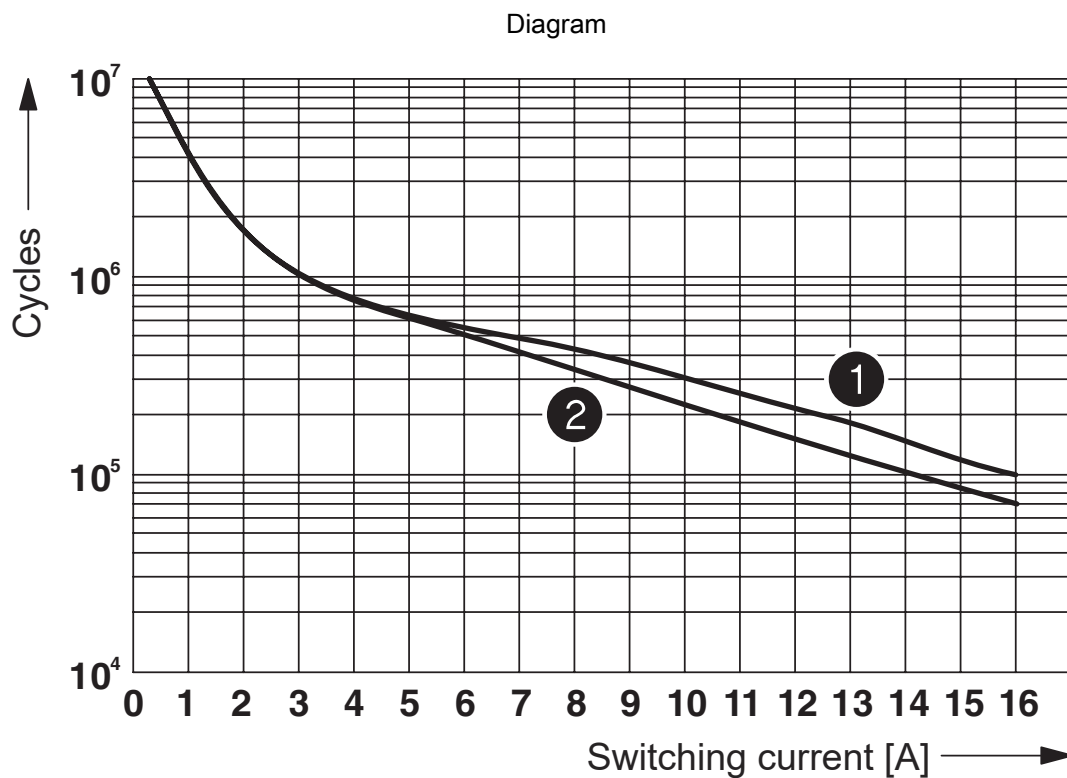
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Dimensional drawing





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

Electrical service life

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/gb/products/2961406>



**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 172140



**VDE Zeichengenehmigung**  
Approval ID: 40007758



**VDE Zeichengenehmigung**  
Approval ID: 40048281



**cUL Recognized**  
Approval ID: FILE E 172140



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

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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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## Mandatory accessories

### RIF-1-BPT/2X21 - Relay base

2900931

<https://www.phoenixcontact.com/gb/products/2900931>

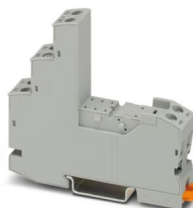


Relay base RIF-1..., for miniature power relay with 1 or 2 changeover contacts or solid-state relays of the same design, Push-in connection, plug-in option for input/interference suppression modules, for mounting on NS 35/7,5

### RIF-1-BSC/2X21 - Relay base

2900930

<https://www.phoenixcontact.com/gb/products/2900930>



RIF-1... relay base, for miniature power relay with 1 or 2 changeover contacts or identical solid-state relays, screw connection, plug-in option for input/interference suppression modules, for mounting on NS 35/7,5

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