

# REL-MR-230AC/21HC - Single relay



2961422

<https://www.phoenixcontact.com/us/products/2961422>

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Plug-in miniature power relay, with power contact for high continuous currents, 1 changeover contact, input voltage 230 V AC

## Your advantages

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

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 2961422       |
| Packing unit                         | 10 pc         |
| Minimum order quantity               | 10 pc         |
| Sales key                            | C460          |
| Product key                          | DK6931        |
| GTIN                                 | 4017918937836 |
| Weight per piece (including packing) | 16.3 g        |
| Weight per piece (excluding packing) | 15.89 g       |
| Customs tariff number                | 85364900      |
| Country of origin                    | AT            |

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## Technical data

### Product properties

|                         |                                 |
|-------------------------|---------------------------------|
| Product type            | Single relay                    |
| Set comprises           | 2903339 RIF-1-RPT-LV-230AC/1X21 |
| Operating mode          | 100% operating factor           |
| Mechanical service life | 1x 10 <sup>7</sup> cycles       |

### Insulation characteristics

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

### Data management status

|                              |            |
|------------------------------|------------|
| Date of last data management | 01.04.2026 |
|------------------------------|------------|

### Electrical properties

|   |  |
|---|--|
| Service life electrical                         | see diagram                              |
| Maximum power dissipation for nominal condition | 0.4 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>    | 230 V AC                                     |
| Input voltage range                     | 179.4 V AC ... 356.5 V AC                    |
| Mains frequency                         | 50/60 Hz                                     |
| Drive and function                      | monostable                                   |
| Drive (polarity)                        | non-polarized                                |
| Typical input current at U <sub>N</sub> | 3 mA (50 Hz)<br>2.5 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                         | 32500 Ω ±15 % (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)      |

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|                                       |                                |
|---------------------------------------|--------------------------------|
| 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)         |
|                                       | 6 A (at 24 V, AC15)            |
|                                       | 6 A (at 120 V, AC15)           |
|                                       | 6 A (at 250 V, AC15)           |
| Motor load according to UL 508        | 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

### Item dimensions

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

## Standards and regulations

|           |
|-----------|
| IEC 60664 |
|-----------|

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

## Mounting

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

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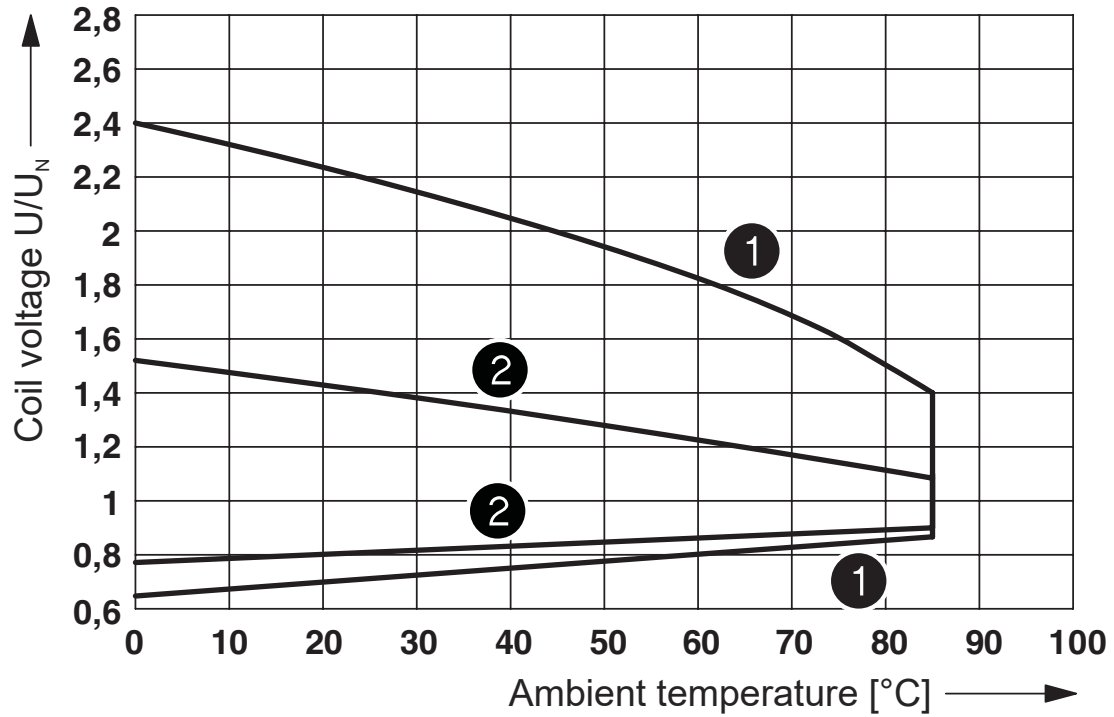


## Drawings

### Dimensional drawing



Diagram



- ① DC coils
- ② AC coils

Operating voltage range



Interrupting rating

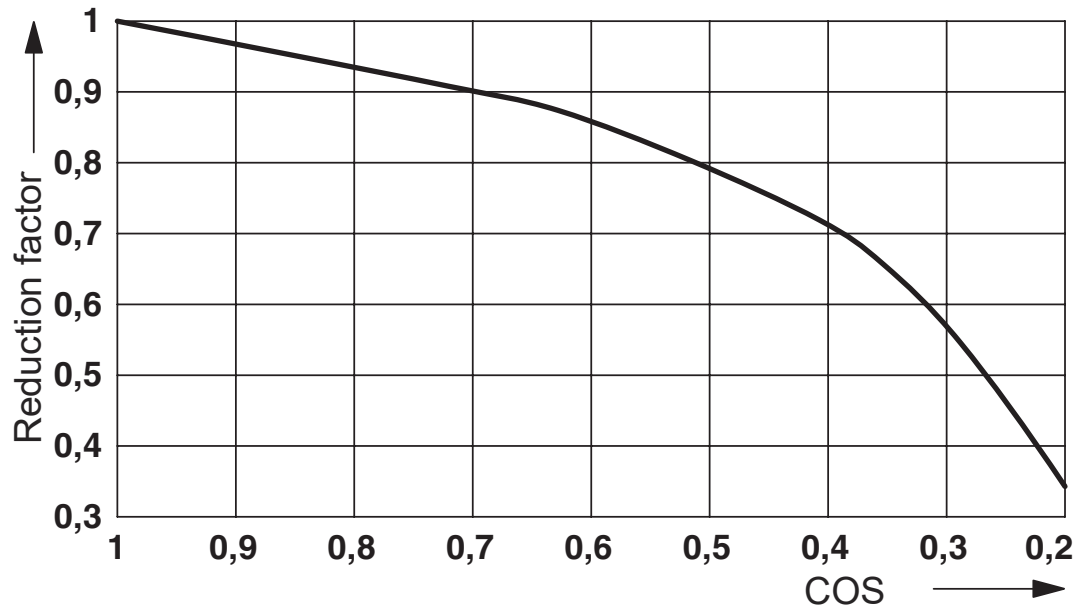
Diagram



- 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



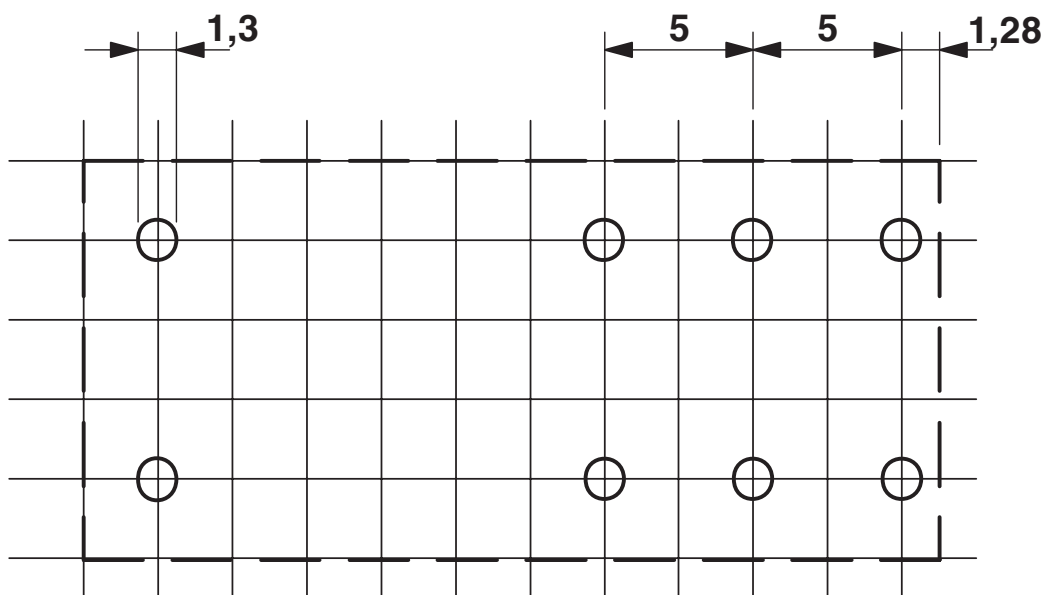
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Drilling plan/solder pad geometry



Basic pitch 2.5 mm

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2961422>



**cUL Recognized**

Approval ID: FILE E 228652



**UL Recognized**

Approval ID: FILE E 228652



**EAC**

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



**VDE Zeichengenehmigung**

Approval ID: 40048281



**VDE Zeichengenehmigung**

Approval ID: 40007758



**cULus Recognized**

Approval ID: E172140

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27371601 |
| ECLASS-15.0 | 27371601 |

### ETIM

|           |          |
|-----------|----------|
| ETIM 10.0 | 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% |
|-------------------------------------|----------------------------|

### EF3.1 Climate Change

|         |               |
|---------|---------------|
| CO2e kg | 0.402 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)