

# REL-MR- 24DC/ 1ICT - Single relay



2987338

<https://www.phoenixcontact.com/us/products/2987338>

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Pluggable miniature power relay, with tungsten pre-contact for high switch-on currents up to 800 A peaks, 1 N/O contact, input voltage: 24 V DC

## Your advantages

- Safe isolation between coil and contact side
- High degree of protection up to RT III depending on type (wash-proof)
- Power contacts up to 16 A

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 2987338       |
| Packing unit                         | 10 pc         |
| Minimum order quantity               | 10 pc         |
| Sales key                            | C460          |
| Product key                          | CK6931        |
| GTIN                                 | 4046356491112 |
| Weight per piece (including packing) | 16.95 g       |
| Weight per piece (excluding packing) | 16.95 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 | 3x 10 <sup>7</sup> cycles |

### Data management status

|                              |            |
|------------------------------|------------|
| Date of last data management | 02.05.2024 |
| Article revision             | 00         |

### Insulation characteristics

|                      |                                       |
|----------------------|---------------------------------------|
| Insulation           | Safe isolation, reinforced insulation |
| Overvoltage category | III                                   |
| Pollution degree     | 3                                     |

### Electrical properties

|                                                 |                                          |
|-------------------------------------------------|------------------------------------------|
| Maximum power dissipation for nominal condition | 0.41 W                                   |
| Test voltage (Winding/contact)                  | 5 kV AC (50 Hz, 1 min., winding/contact) |
| Rated insulation voltage                        | 250 V AC                                 |
| Rated surge voltage                             | 6 kV                                     |

### Input data

#### Coil side

|                                                    |                       |
|----------------------------------------------------|-----------------------|
| Nominal input voltage U <sub>N</sub>               | 24 V DC               |
| Input voltage range                                | 19.2 V DC ... 54 V DC |
| Input voltage range in reference to U <sub>N</sub> | see diagram           |
| Drive and function                                 | monostable            |
| Drive (polarity)                                   | non-polarized         |
| Typical input current at U <sub>N</sub>            | 17 mA                 |
| Typical response time                              | 8 ms                  |
| Typical release time                               | 3 ms                  |
| Coil resistance                                    | 1440 Ω ±10 % (20 °C)  |

### Output data

#### Switching

|                             |                |
|-----------------------------|----------------|
| Contact switching type      | 1 N/O contact  |
| Type of switch contact      | Single contact |
| Contact material            | AgSnO          |
| Maximum switching voltage   | 250 V AC/DC    |
| Minimum switching voltage   | 12 V (100 mA)  |
| Limiting continuous current | 16 A           |
| Maximum inrush current      | 165 A (20 ms)  |

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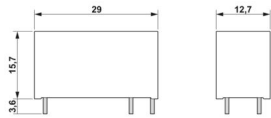


|                                       |                        |
|---------------------------------------|------------------------|
|                                       | 800 A (200 µs)         |
| Min. switching current                | 100 mA (at 12 V DC)    |
| Interrupting rating (ohmic load) 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 min.               | 1200 mW                |
| 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)   |

## 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 |
| Altitude                                | ≤ 2000 m         |

## Approvals

### Corrosive gas test

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

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## Standards and regulations

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

## Mounting

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

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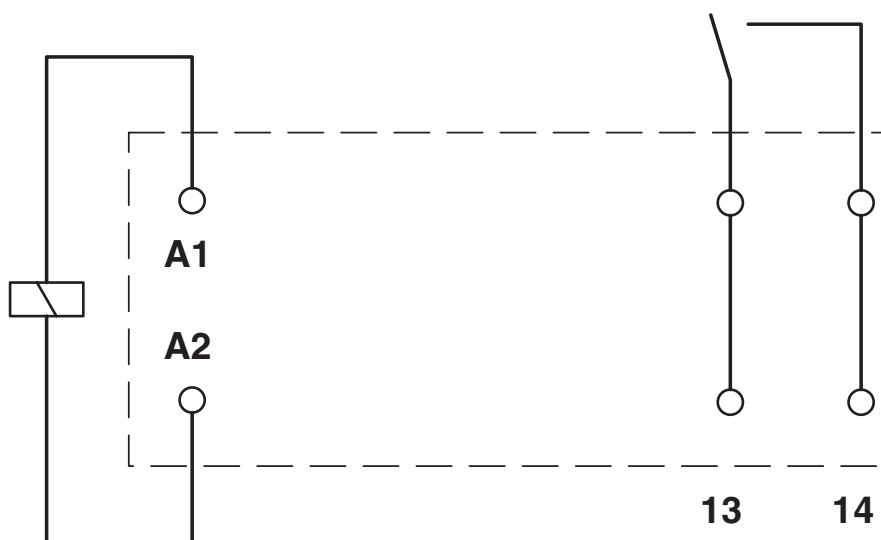
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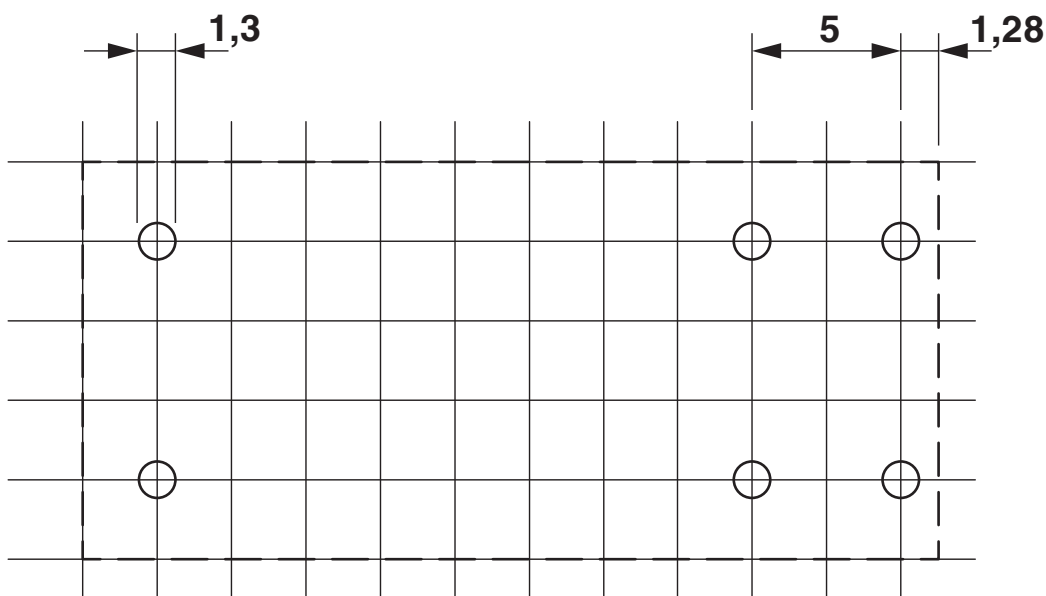


## Drawings

Circuit diagram



Drilling plan/solder pad geometry



a = pitch division 2.5 mm

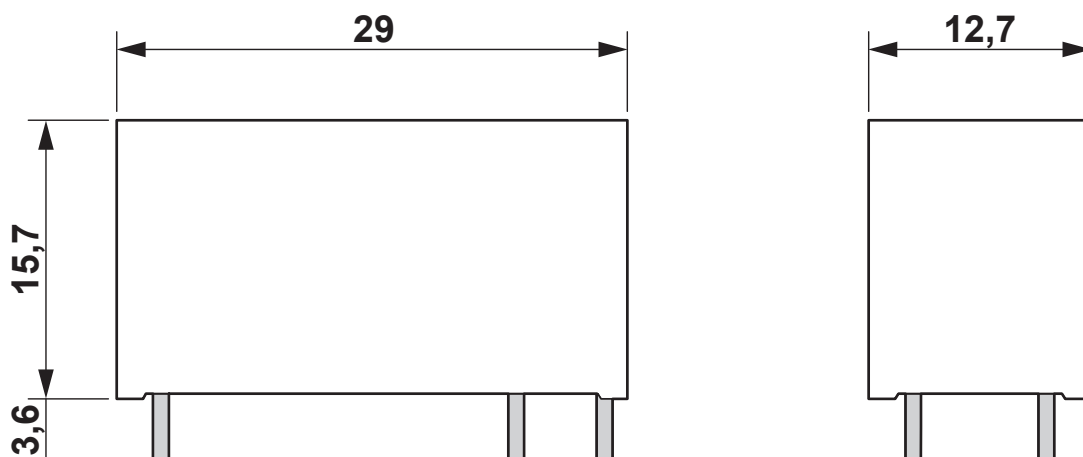
# REL-MR- 24DC/ 1ICT - Single relay

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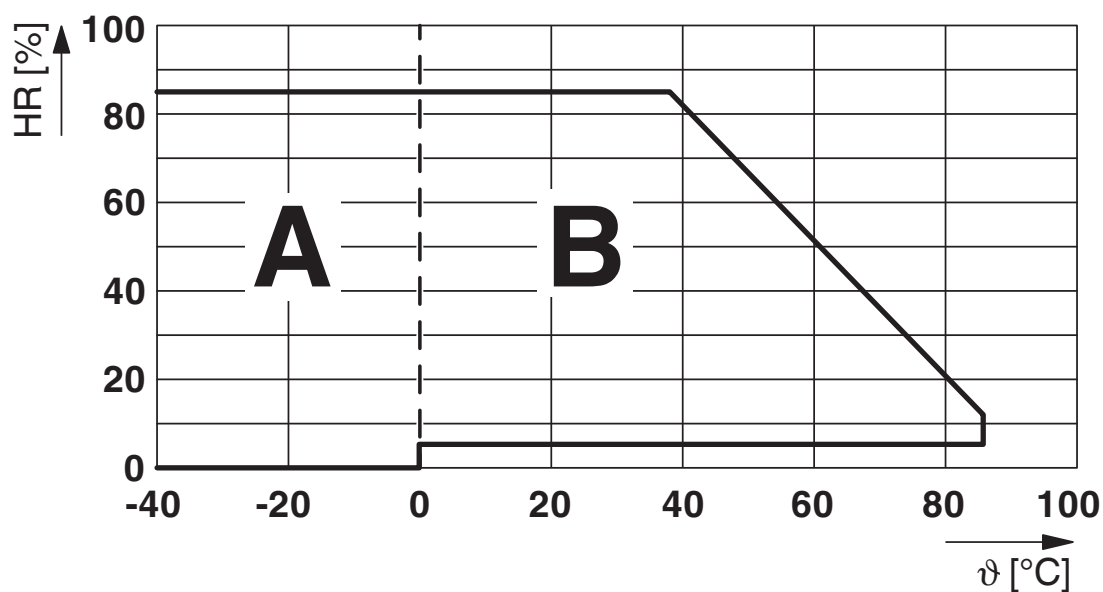
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Dimensional drawing



Diagram



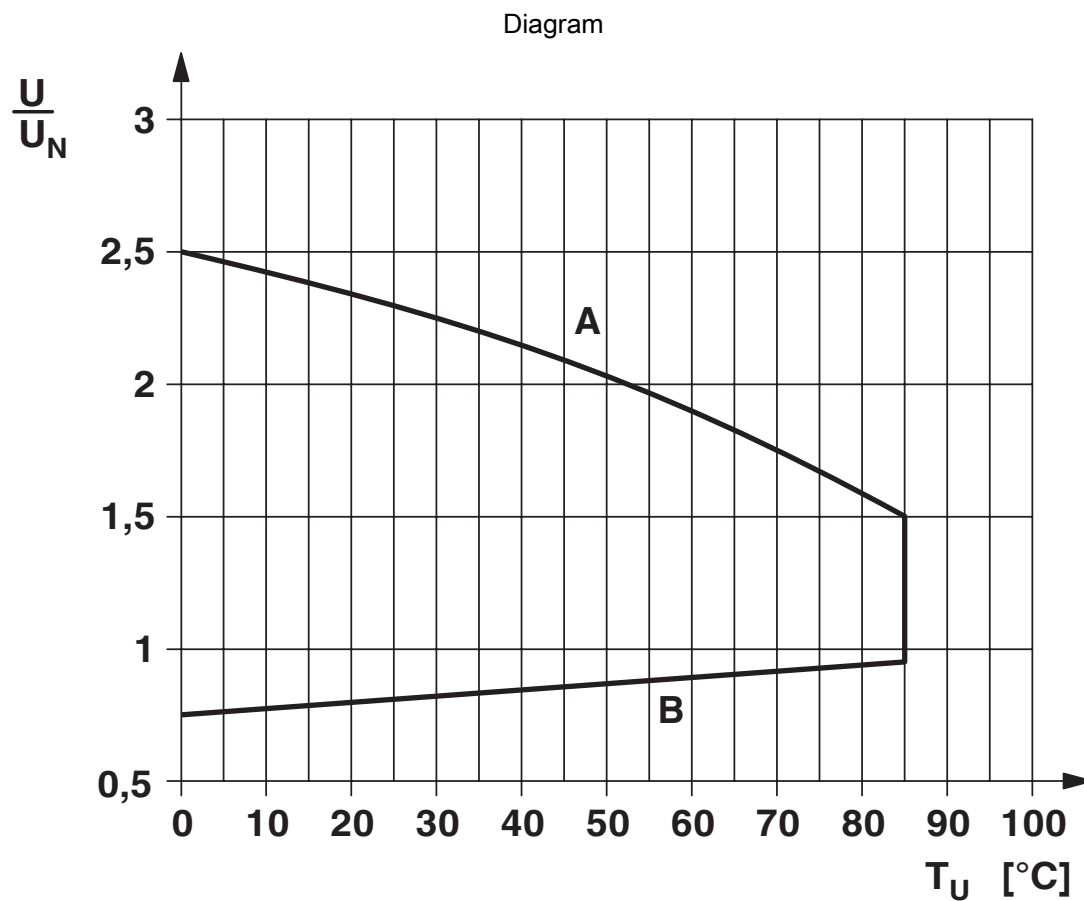
Permissible humidity for operation and storage.

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

**Curve A**

Maximum permissible continuous voltage  $U_{\max}$  with limiting continuous current on the contact side (see relevant technical data)

**Curve B**

Minimum permissible operate voltage  $U_{\text{op}}$  after pre-excitation (see relevant technical data)

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2987338>



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



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



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



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



**VDE Zeichengenehmigung**  
Approval ID: 40007758

**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

|                                         |                                          |
|-----------------------------------------|------------------------------------------|
| 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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## Mandatory accessories

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

2900931

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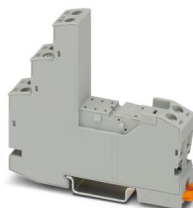
Relay base RIF-1..., for miniature power relay with 1 or 2 changeover contacts or solid-state relays of the same design, Push-in connection, plug-in option for input/interference suppression modules, for mounting on NS 35/7,5

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

2900930

<https://www.phoenixcontact.com/us/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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