

# REL-IR4/LDP- 12DC/4X21AU - Single relay



2903669

<https://www.phoenixcontact.com/gb/products/2903669>

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Plug-in industrial relay with power contacts and additional hard gold plating, 4 changeover contacts, test button, status LED, freewheeling diode, mechanical switching position indicator, polarity: A1+, A2-, coil voltage: 12 V DC

## Commercial data

|                                      |                     |
|--------------------------------------|---------------------|
| Item number                          | 2903669             |
| Packing unit                         | 10 pc               |
| Minimum order quantity               | 10 pc               |
| Sales key                            | CK6193              |
| Product key                          | CK6193              |
| Catalog page                         | Page 300 (C-5-2019) |
| GTIN                                 | 4046356758826       |
| Weight per piece (including packing) | 34.3 g              |
| Weight per piece (excluding packing) | 34.3 g              |
| Customs tariff number                | 85364190            |
| Country of origin                    | PL                  |

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## Technical data

### Product properties

|                         |                                |
|-------------------------|--------------------------------|
| Product type            | Single relay                   |
| Operating mode          | 100% operating factor          |
| Mechanical service life | approx. $2 \times 10^7$ cycles |

### Insulation characteristics

|            |                  |
|------------|------------------|
| Insulation | Basic insulation |
|------------|------------------|

### Insulation characteristics

|                      |                  |
|----------------------|------------------|
| Insulation           | Basic insulation |
| Overvoltage category | II               |
| Pollution degree     | 2                |

### Electrical properties

|                                                      |                                                                            |
|------------------------------------------------------|----------------------------------------------------------------------------|
| Service life electrical                              | see diagram                                                                |
| Maximum power dissipation for nominal condition      | 0.94 W                                                                     |
| Test voltage (Winding/contact)                       | 2.5 kV <sub>rms</sub> (50 Hz, 1 min., winding/contact)                     |
| Test voltage (Changeover contact/changeover contact) | 2 kV <sub>rms</sub> (50 Hz, 1 min., changeover contact/changeover contact) |
| Rated insulation voltage                             | 250 V AC                                                                   |
| Rated surge voltage                                  | 2.5 kV                                                                     |

### Input data

#### Coil side

|                                |                                |
|--------------------------------|--------------------------------|
| Nominal input voltage $U_N$    | 12 V DC                        |
| Input voltage range            | 9.6 V DC ... 21.6 V DC (20 °C) |
| Drive and function             | monostable                     |
| Drive (polarity)               | polarized                      |
| Typical input current at $U_N$ | 78 mA                          |
| Typical response time          | 13 ms                          |
| Typical release time           | 14 ms                          |
| Protective circuit             | Freewheeling diode             |
| Status display                 | Yellow LED                     |

### Output data

#### Switching

|                        |                                                                                                                                                                                                                                                     |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Contact switching type | 4 changeover contacts                                                                                                                                                                                                                               |
| Type of switch contact | Single contact                                                                                                                                                                                                                                      |
| Contact material       | AgNi, hard gold-plated                                                                                                                                                                                                                              |
| Note                   | If the specified maximum values for multi-layer contact relays are exceeded, the gold plating is destroyed. The maximum values of the power contact relay are then valid. This can result in a shorter service life than with a pure power contact. |

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|                                       |                    |
|---------------------------------------|--------------------|
| Maximum switching voltage             | 30 V AC            |
|                                       | 36 V DC            |
| Minimum switching voltage             | 2 V (At 24 mA)     |
| Limiting continuous current           | 50 mA              |
| Maximum inrush current                | 50 mA              |
| Min. switching current                | 2 mA (24 V DC)     |
| Interrupting rating (ohmic load) max. | 1.2 W (at 24 V DC) |
| Switching capacity min.               | 48 mW              |
| Motor load according to UL 508        | 1/3 HP, 240 V AC   |

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 AC/DC                                                      |
| Minimum switching voltage             | 5 V (At 24 mA)                                                   |
| Limiting continuous current           | 6 A                                                              |
| Maximum inrush current                | 16 A (20 ms, N/O contacts)                                       |
| Min. switching current                | 5 mA (at 24 V)                                                   |
| Interrupting rating (ohmic load) max. | 144 W (at 24 V DC)                                               |
|                                       | 124 W (at 48 V DC)                                               |
|                                       | 108 W (at 60 V DC)                                               |
|                                       | 52 W (at 110 V DC)                                               |
|                                       | 48 W (at 220 V DC)                                               |
|                                       | 1500 VA (for 250 V AC)                                           |
| Switching capacity                    | 2 A (at 24 V, DC13)                                              |
|                                       | 0.22 A (at 120 V, DC13)                                          |
|                                       | 0.11 A (at 250 V, DC13)                                          |
|                                       | 1.5 A (at 24 V, AC15)                                            |
|                                       | 1.5 A (at 120 V, AC15)                                           |
|                                       | 1 A (at 240 V, AC15)                                             |

## Connection data

|                   |                    |
|-------------------|--------------------|
| Connection method | Plug-in connection |
|-------------------|--------------------|

## Dimensions

|        |         |
|--------|---------|
| Width  | 21.2 mm |
| Height | 27.5 mm |
| Depth  | 35.6 mm |

## Environmental and real-life conditions

Ambient conditions

|                                 |                  |
|---------------------------------|------------------|
| Degree of protection            | RT I             |
| Ambient temperature (operation) | -40 °C ... 70 °C |

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|                                         |                  |
|-----------------------------------------|------------------|
| 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 |
|                       | IEC 61810 |

### Mounting

|                   |     |
|-------------------|-----|
| Mounting position | any |
|-------------------|-----|

## Drawings

Diagram



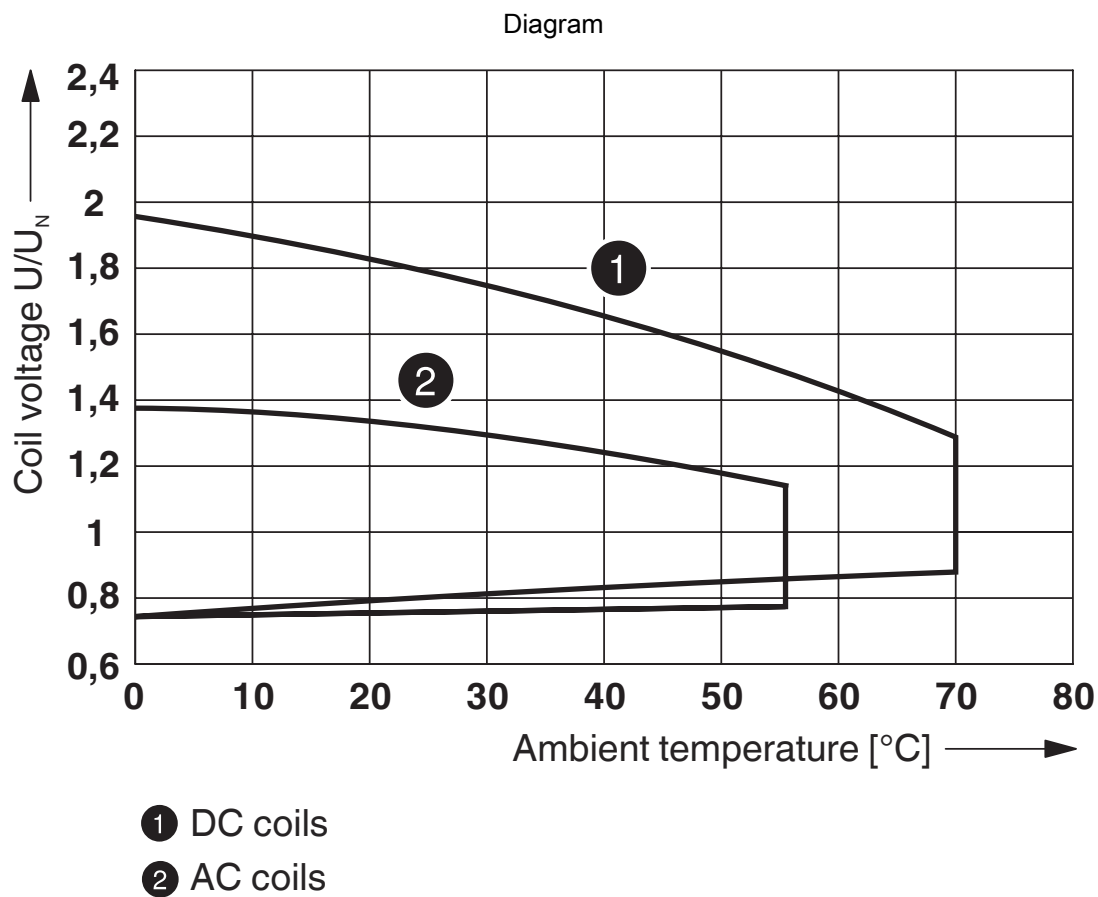
Permissible humidity for operation and storage.

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



Operating voltage range

Diagram



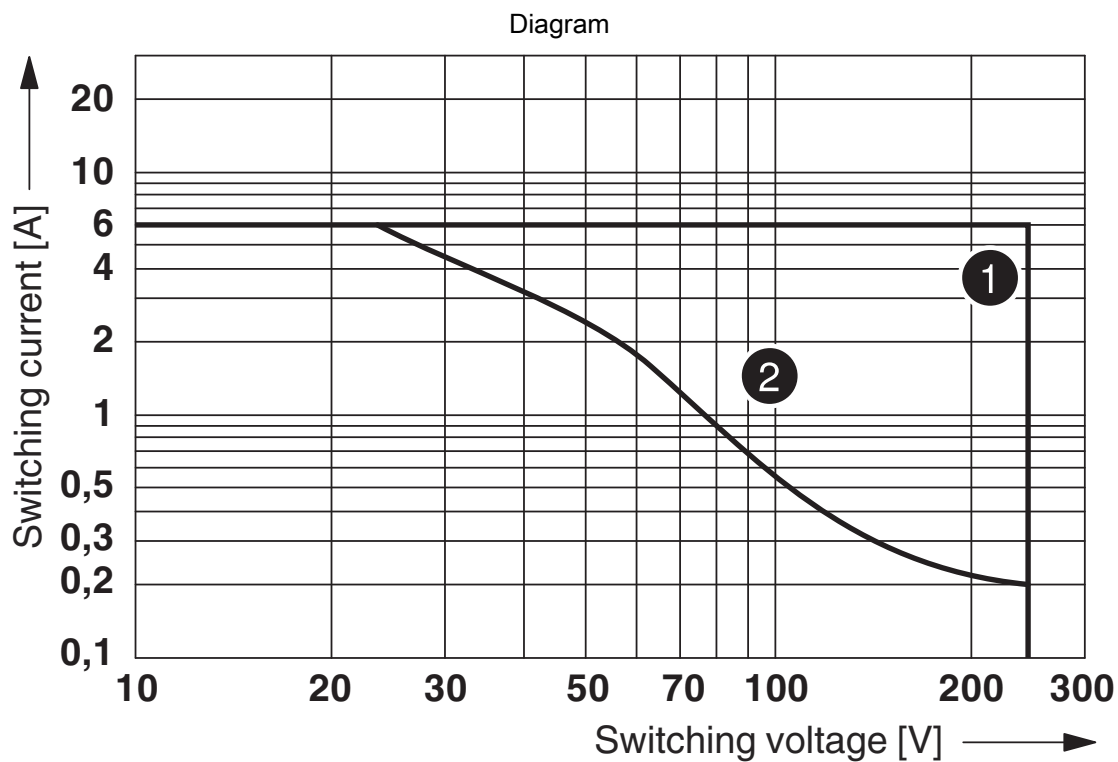
① 250 V AC, Ohmic load

Electrical service life

Diagram



Service life reduction factor

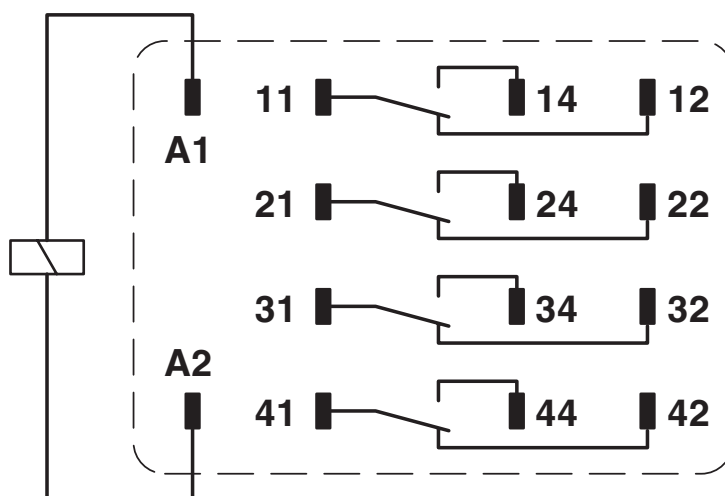


① AC, ohmic load

② DC, ohmic load

Interrupting rating

Circuit diagram



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/gb/products/2903669>



**CSA**  
Approval ID: 256725



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



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



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



**VDE Zeichengenehmigung**  
Approval ID: 40040427

**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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## Mandatory accessories

### RIF-2-BPT/4X21 - Relay base

2900934

<https://www.phoenixcontact.com/gb/products/2900934>



Relay base RIF-2..., for industrial relay with 2 or 4 changeover contacts, Push-in connection, plug-in option for input/interference suppression modules, for mounting on NS 35/7,5

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### RIF-2-BSC/4X21 - Relay base

2900932

<https://www.phoenixcontact.com/gb/products/2900932>



RIF-2... relay base, for industrial relay with 2 or 4 changeover contacts, screw connection, plug-in option for input/interference suppression modules, for mounting on NS 35/7,5

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