

# REL-FO/L-24DC/2X21 - Single relay



1308296

<https://www.phoenixcontact.com/us/products/1308296>

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Plug-in miniature relay, FASTON connection, 2 changeover contacts, status display: Yellow LED, Input voltage: 24 V DC

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 1308296       |
| Packing unit                         | 10 pc         |
| Minimum order quantity               | 10 pc         |
| Sales key                            | C460          |
| Product key                          | CKF935        |
| GTIN                                 | 4063151558734 |
| Weight per piece (including packing) | 25 g          |
| Weight per piece (excluding packing) | 25 g          |
| Customs tariff number                | 85364190      |
| Country of origin                    | CN            |

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## Technical data

### Notes

|                    |                                                                                                                                                                                   |
|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Notes on operation | Do not use to separate SELV/PELV circuits from other circuits, because safe isolation is not guaranteed. (applies to the optocoupler variants)                                    |
| Notes on operation | The outputs are not suitable for switching different outer conductors.                                                                                                            |
| Notes on operation | The system installer must ensure the touch protection of the product (at voltages > 25 V AC/60 V DC). The product is a built-in device without protection against direct contact. |

### Product properties

|                         |                                |
|-------------------------|--------------------------------|
| Product type            | Single relay                   |
| Product family          | ESSENTIAL edition              |
| Operating mode          | 100% operating factor          |
| Mechanical service life | approx. $5 \times 10^7$ cycles |
| Relay type              | Electromechanical relay        |

Insulation characteristics: Air clearances and creepage distances between the power circuits

|                      |                  |
|----------------------|------------------|
| Insulation           | Basic insulation |
| Overvoltage category | II               |
| Pollution degree     | 3                |

### Electrical properties

|                                                      |                                                                            |
|------------------------------------------------------|----------------------------------------------------------------------------|
| Maximum power dissipation for nominal condition      | 0.58 W                                                                     |
| Test voltage (Winding/contact)                       | 5 kV <sub>rms</sub> (50 Hz, 1 min., winding/contact)                       |
| Test voltage (Changeover contact/changeover contact) | 3 kV <sub>rms</sub> (50 Hz, 1 min., changeover contact/changeover contact) |
| Test voltage ()                                      | 1 kV <sub>rms</sub> (50 Hz, 1 min., open contact)                          |

Air clearances and creepage distances between the power circuits

|                          |          |
|--------------------------|----------|
| Rated insulation voltage | 250 V AC |
| Rated surge voltage      | 2.5 kV   |

### Input data

#### Coil side

|                                   |                         |
|-----------------------------------|-------------------------|
| Nominal input voltage $U_N$       | 24 V DC                 |
| Input voltage range               | 16.8 V DC ... 26.4 V DC |
| Drive and function                | monostable              |
| Drive (polarity)                  | non-polarized           |
| Typical input current at $U_N$    | 24 mA                   |
| Input power dissipation for $U_N$ | 0.58 W                  |
| Typical response time             | 2 ms ... 10 ms          |
| Typical release time range        | 5 ms ... 20 ms          |
| Status display                    | Yellow LED              |

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|                 |                         |
|-----------------|-------------------------|
| Coil resistance | 1080 $\Omega \pm 10 \%$ |
|-----------------|-------------------------|

## Output data

### Switching

|                                       |                                                          |
|---------------------------------------|----------------------------------------------------------|
| Contact switching type                | 2 changeover contacts                                    |
| Type of switch contact                | Single contact                                           |
| Contact material                      | AgSnO                                                    |
| Maximum switching voltage             | 250 V AC<br>30 V DC                                      |
| Minimum switching voltage             | 5 V (10 mA)                                              |
| Limiting continuous current           | 8 A                                                      |
| Maximum inrush current                | 16 A (20 ms, N/O contacts)                               |
| Min. switching current                | 10 mA (5 V)                                              |
| Interrupting rating (ohmic load) max. | 192 W (24 V DC)<br>240 W (30 V DC)<br>2000 VA (250 V AC) |

## Connection data

|                   |                   |
|-------------------|-------------------|
| Connection method | FASTON connection |
|-------------------|-------------------|

## Dimensions

|        |         |
|--------|---------|
| Width  | 13 mm   |
| Height | 31.1 mm |
| Depth  | 29 mm   |

## Environmental and real-life conditions

### Ambient conditions

|                                              |                              |
|----------------------------------------------|------------------------------|
| Degree of protection (Relay)                 | RT II (Relay)                |
| Degree of protection (Installation location) | IP54 (Installation location) |
| Ambient temperature (operation)              | -40 °C ... 70 °C             |
| Ambient temperature (storage/transport)      | -40 °C ... 70 °C             |
| Altitude                                     | $\leq 2000$ m                |

## Standards and regulations

|                       |                            |
|-----------------------|----------------------------|
| Standards/regulations | IEC 61810-1<br>IEC 60664-1 |
|-----------------------|----------------------------|

### Air clearances and creepage distances between the power circuits

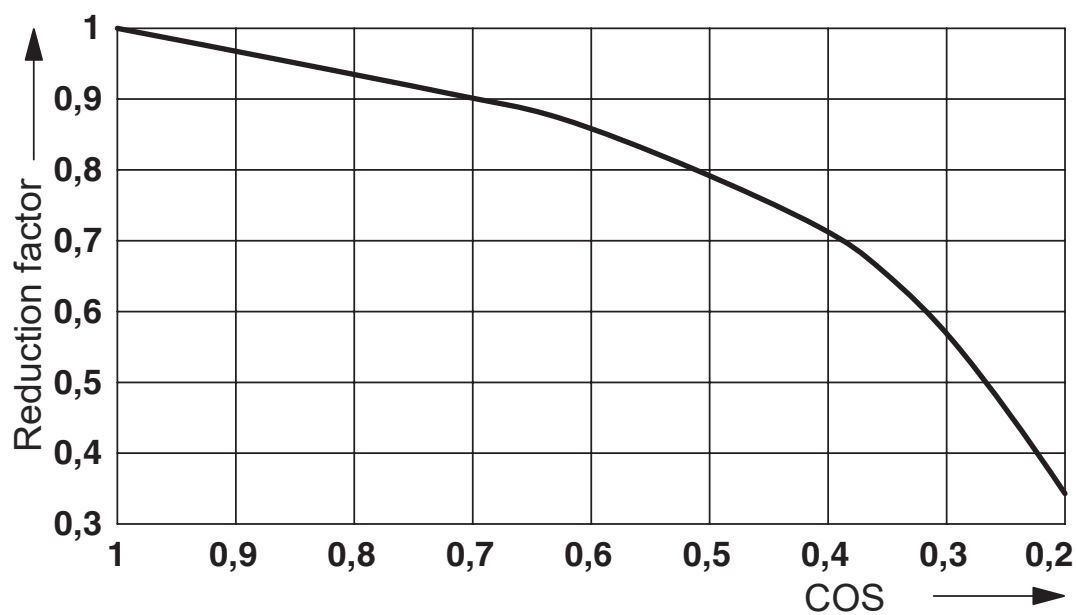
|                       |             |
|-----------------------|-------------|
| Standards/regulations | IEC 60664-1 |
|-----------------------|-------------|

## Mounting

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

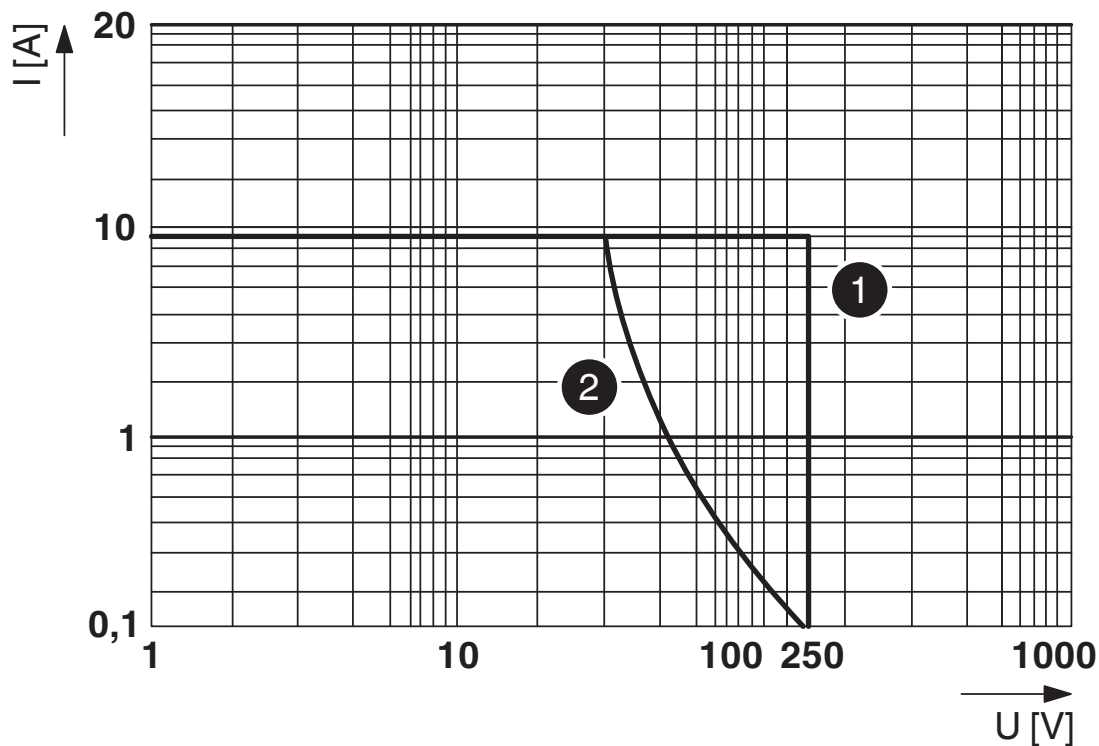
## Drawings

Diagram



Service life reduction factor with various cos phi

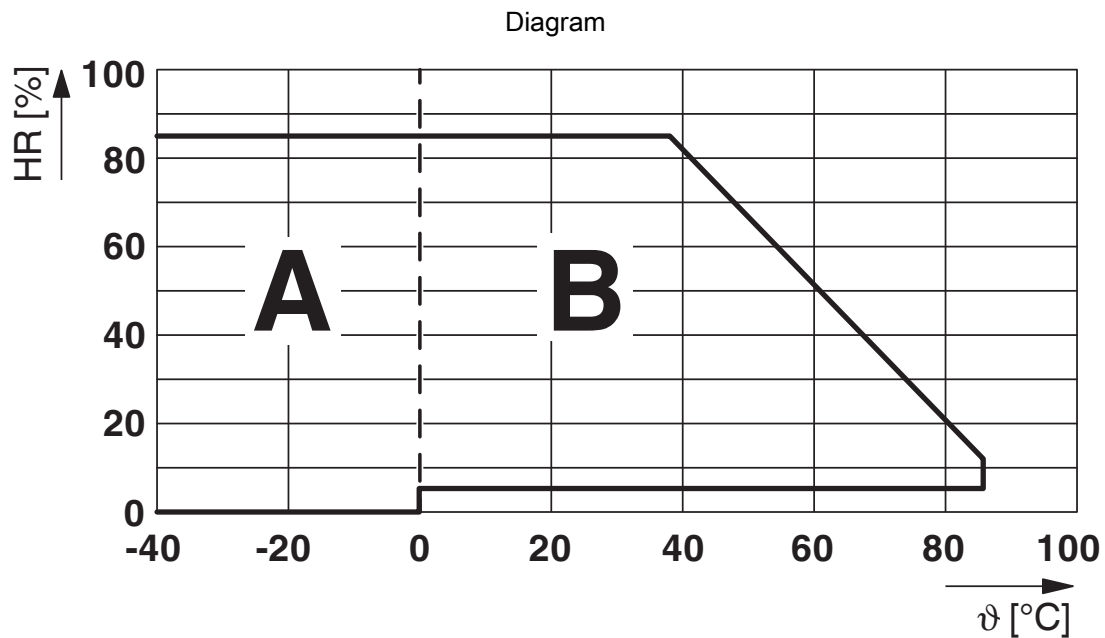
Diagram



Interrupting rating

1) AC, ohmic load

2) DC, ohmic load



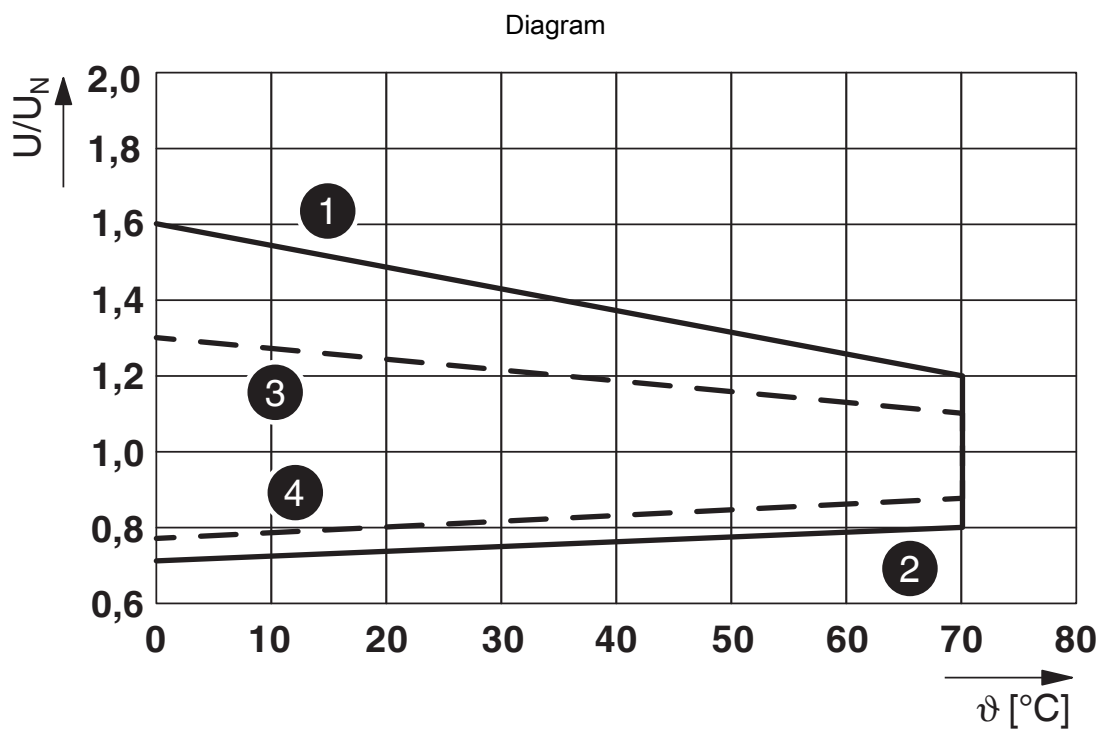
Permissible humidity for operation and storage.

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



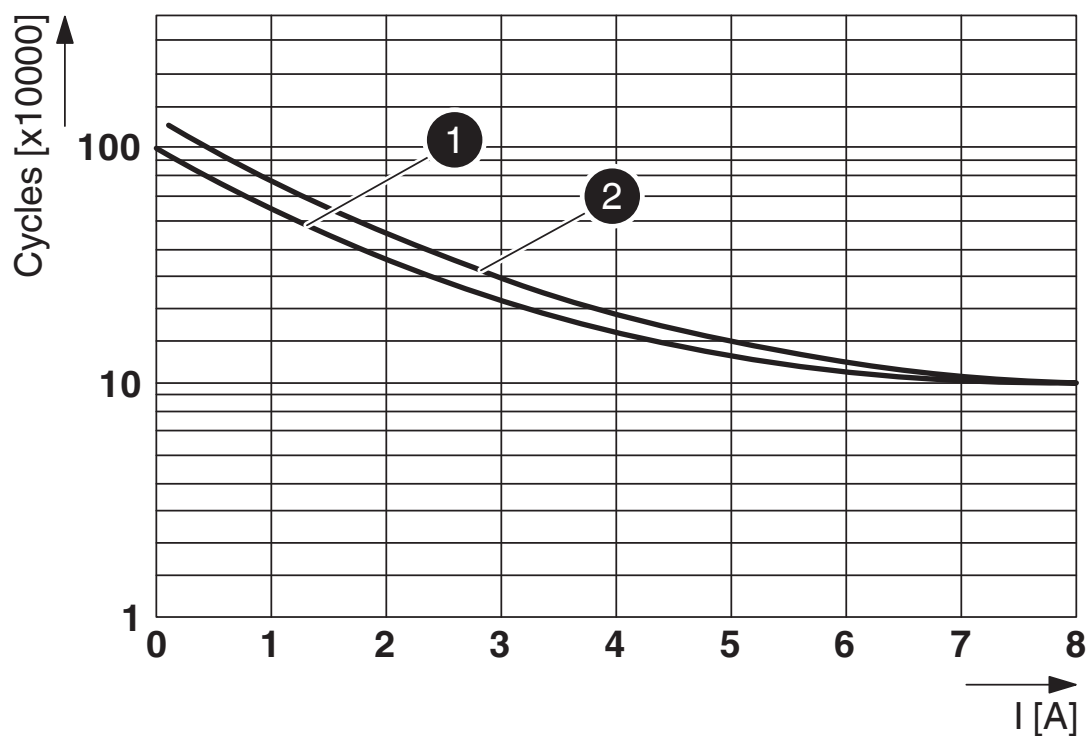
1) DC coil: maximum continuous voltage at limiting continuous current

2) DC coil: minimum operate voltage for pre-excitation with UN and limiting continuous current

3) AC coil: maximum continuous voltage at limiting continuous current

4) AC coil: minimum operate voltage for pre-excitation with UN and limiting continuous current

Diagram



Electrical service life

1) 30 V DC resistance load

2) 250 V AC resistance load

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1308296>



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



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

**cULus Recognized**

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-11.0 | 27371601 |
| ECLASS-12.0 | 27371601 |
| ECLASS-13.0 | 27371601 |

### ETIM

|          |          |
|----------|----------|
| ETIM 8.0 | EC001437 |
|----------|----------|

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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

### ECOR-1-BSC2/FO/2X21 - Relay base

1308332

<https://www.phoenixcontact.com/us/products/1308332>

ECOR-1 relay base, for FASTON relay, Fork-type cable lug, 2 changeover contacts, Input voltage 230 V AC



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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)