

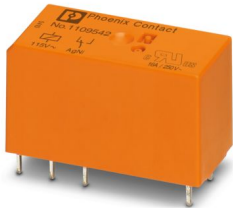
# REL-MR-BL-115AC/21HC - Single relay



1109542

<https://www.phoenixcontact.com/us/products/1109542>

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Pluggable miniature power relay in basic design, with power contact for high continuous currents, 1 changeover contact, input voltage 115 V AC

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 1109542       |
| Packing unit                         | 20 pc         |
| Minimum order quantity               | 20 pc         |
| Sales key                            | C460          |
| Product key                          | CKF921        |
| GTIN                                 | 4063151018689 |
| Weight per piece (including packing) | 14 g          |
| Weight per piece (excluding packing) | 14 g          |
| Customs tariff number                | 85364900      |
| 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

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

### Insulation characteristics

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

### Electrical properties

|                                                 |             |
|-------------------------------------------------|-------------|
| Service life electrical                         | see diagram |
| Maximum power dissipation for nominal condition | 0.4 W       |
| Rated insulation voltage                        | 250 V AC    |
| Rated surge voltage                             | 4 kV        |

### Input data

#### Coil side

|                                         |                                              |
|-----------------------------------------|----------------------------------------------|
| Nominal input voltage U <sub>N</sub>    | 115 V AC                                     |
| Input voltage range                     | 92 V AC ... 166.8 V AC                       |
| Mains frequency                         | 50/60 Hz                                     |
| Drive and function                      | monostable                                   |
| Drive (polarity)                        | non-polarized                                |
| Typical input current at U <sub>N</sub> | 6.6 mA                                       |
| Typical response time                   | 3 ms ... 12 ms (depending on phase relation) |
| Typical release time range              | 2 ms ... 9 ms (depending on phase relation)  |
| Coil voltage                            | 115 V AC                                     |
| Coil resistance                         | 8.1 kΩ ±15 %                                 |

### 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   | 5 V (At 24 mA)       |
| Limiting continuous current | 16 A                 |
| Maximum inrush current      | 30 A (300 ms)        |

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|                                       |                        |
|---------------------------------------|------------------------|
| Min. switching current                | 10 mA (at 12 V)        |
| 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)     |
| Switching capacity                    | 4000 VA (for 250 V AC) |
|                                       | 2 A (at 24 V, DC13)    |
|                                       | 1.5 A (at 230 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 | orange (RAL 2003) |
|-------|-------------------|

## Environmental and real-life conditions

|                                         |                  |
|-----------------------------------------|------------------|
| Ambient conditions                      |                  |
| Degree of protection                    | RT II            |
| Ambient temperature (operation)         | -40 °C ... 70 °C |
| Ambient temperature (storage/transport) | -40 °C ... 85 °C |

## Standards and regulations

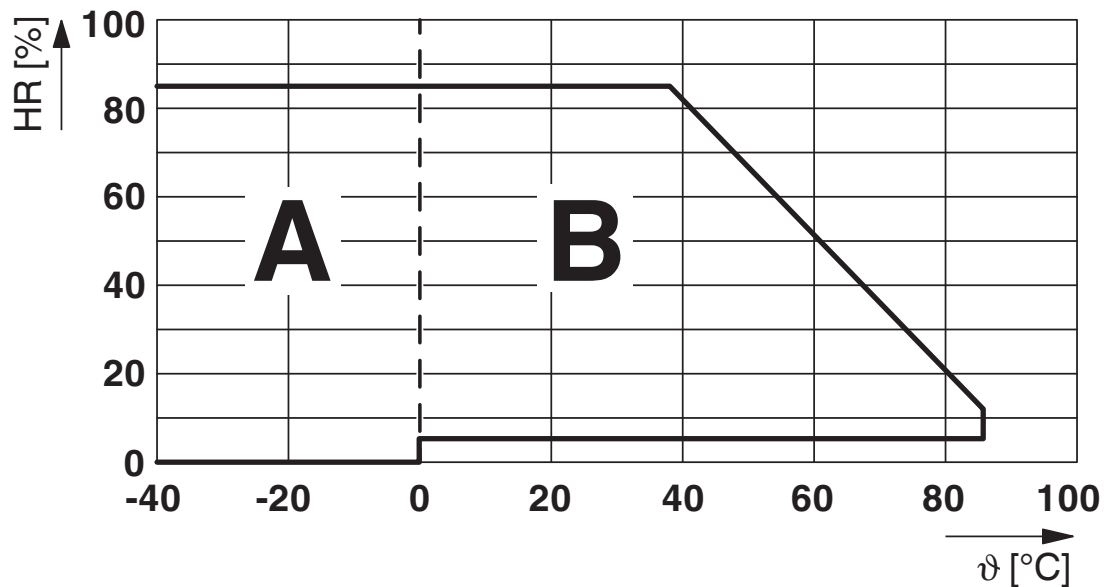
|                       |            |
|-----------------------|------------|
| Standards/regulations | IEC 60664  |
|                       | EN 61810-1 |

## Mounting

|                   |                  |
|-------------------|------------------|
| Mounting type     | Plug-in mounting |
| Mounting position | any              |

## Drawings

Diagram



Permissible humidity for operation and storage.

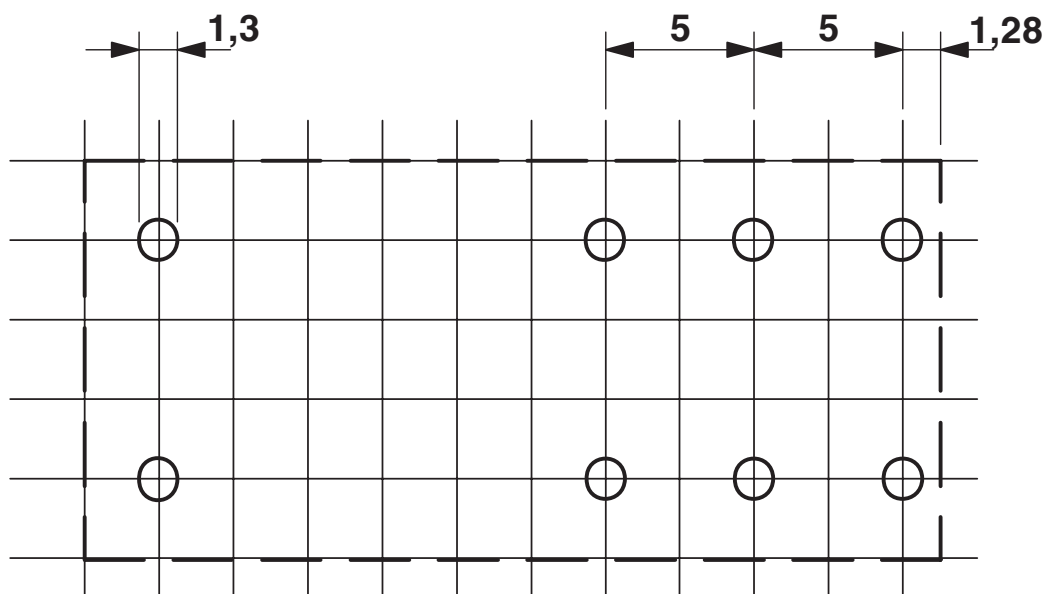
The maximum permissible ambient temperature as specified in the data sheet must be observed.

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

Drilling plan/solder pad geometry

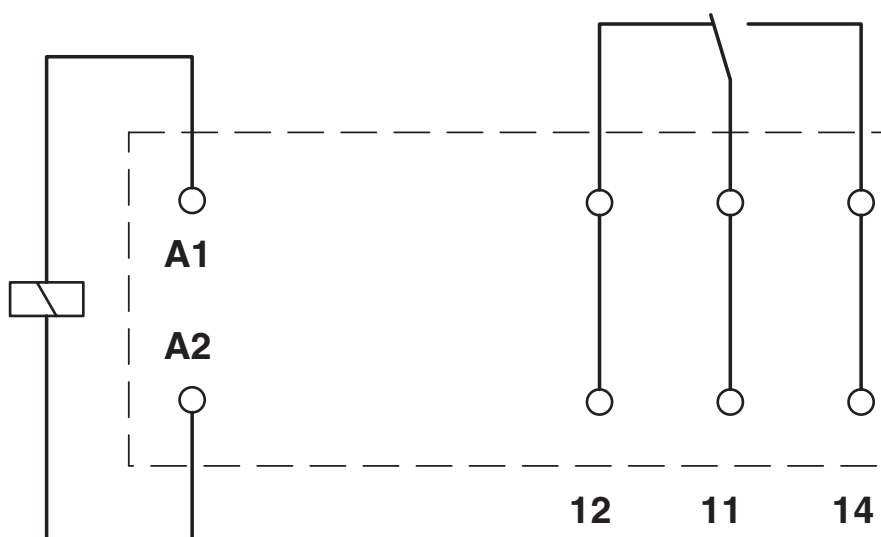


Basic pitch 2.5 mm

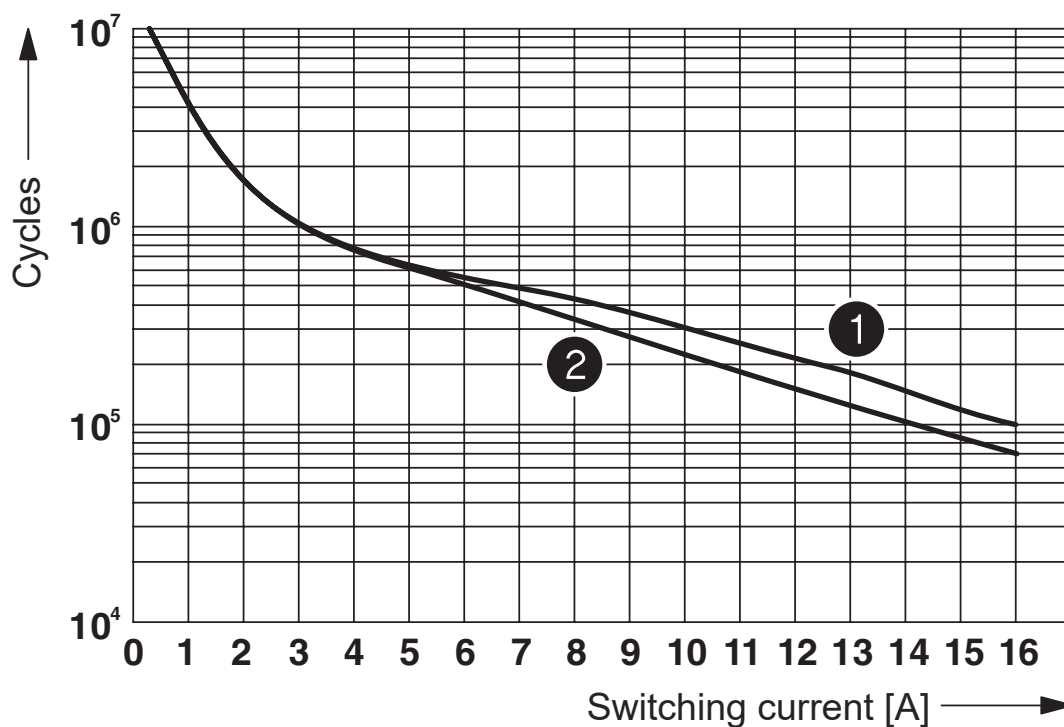
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Circuit diagram



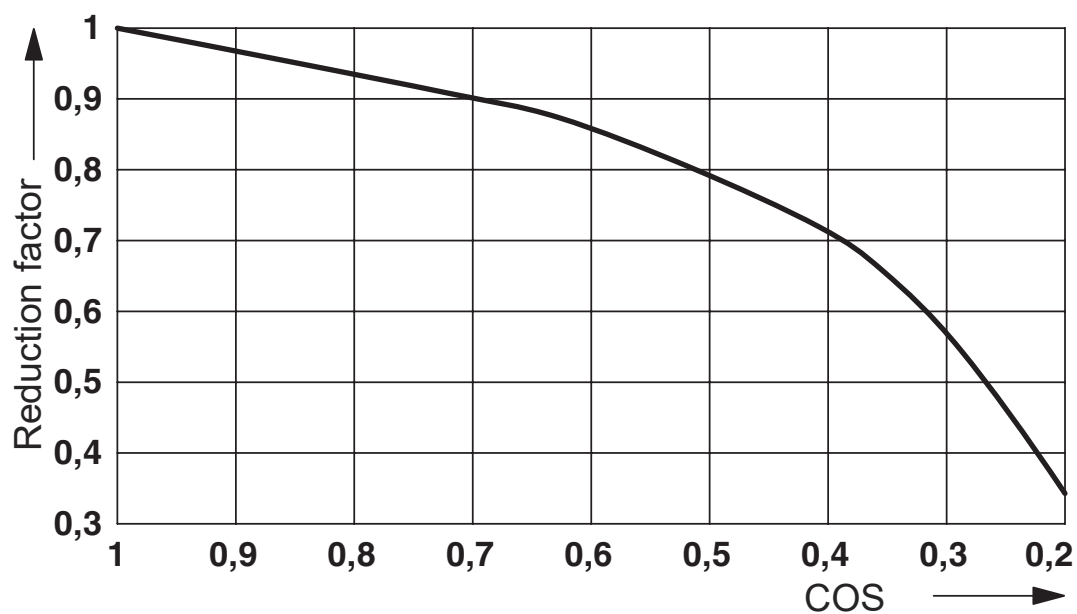
Diagram



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

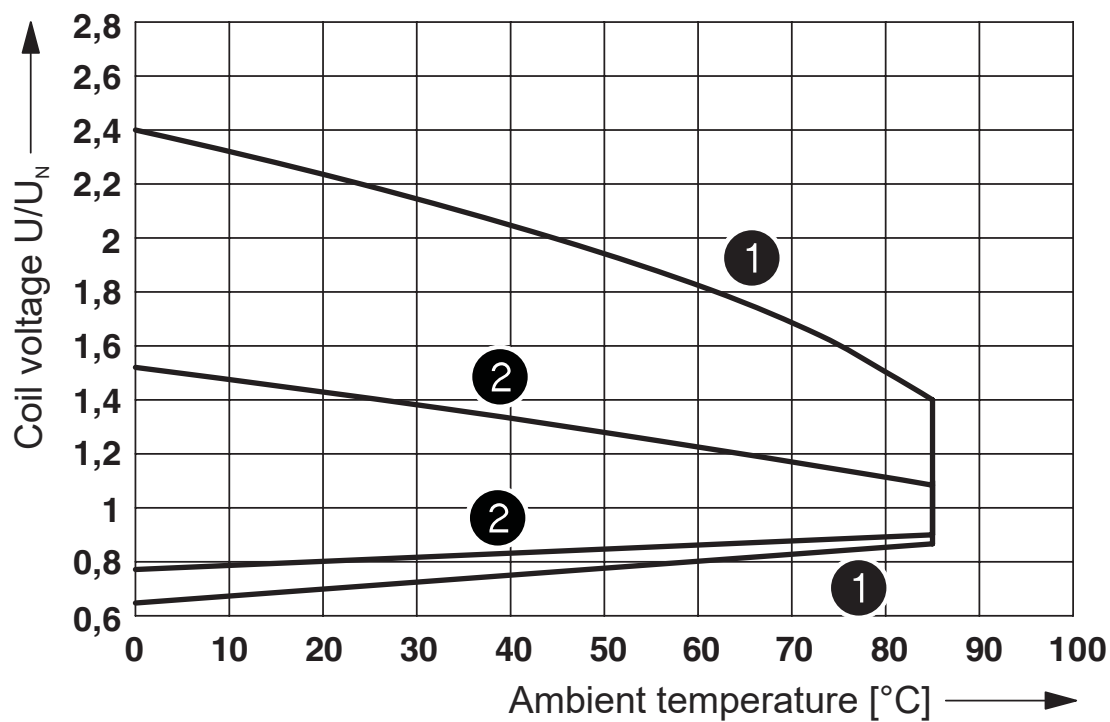
Electrical service life

Diagram



Service life reduction factor with various cos phi

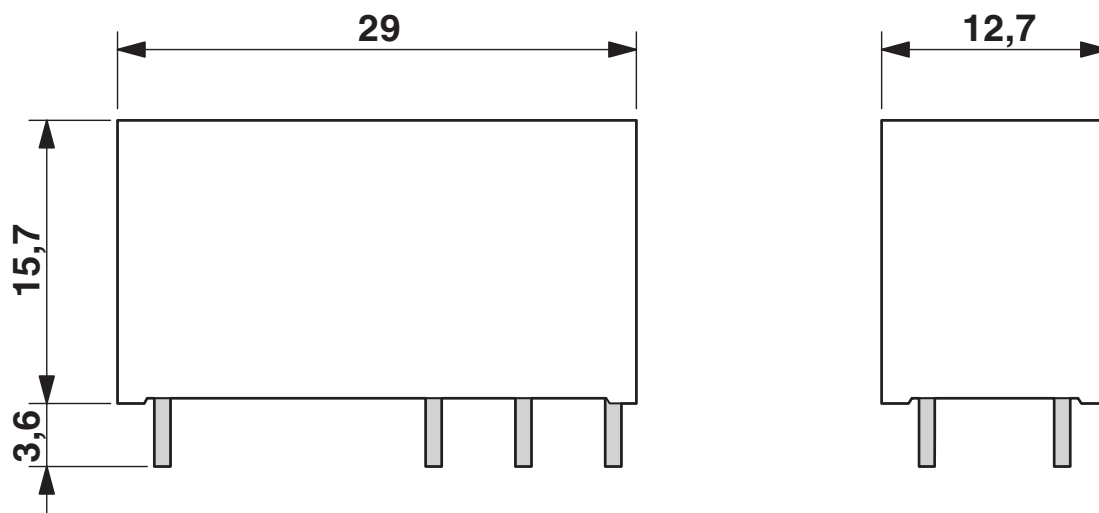
Diagram



- ① DC coils
- ② AC coils

Operating voltage range

Dimensional drawing



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1109542>



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



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## Classifications

### ECLASS

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

### ETIM

|          |          |
|----------|----------|
| ETIM 8.0 | 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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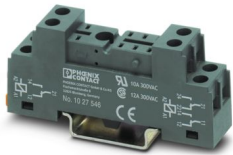
## Mandatory accessories

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

1027546

<https://www.phoenixcontact.com/us/products/1027546>

ECOR-1... relay base, for miniature power relays or miniature switching relays with 1 or 2 changeover contacts, bolt connection, for mounting on NS 35/7,5.



### ECOR-1-BSC3/2X21 - Relay base

2907518

<https://www.phoenixcontact.com/us/products/2907518>

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



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