# REL-MR-110DC/21-21/MS - Single relay

1012698

https://www.phoenixcontact.com/us/products/1012698

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Plug-in miniature relay, with power contact, 2 changeover contacts, test button, mechanical switch position indicator, status LED, freewheeling diode, polarity A1+, A2, input voltage 110 V DC

## Your advantages

- With detectable manual operation
- DC types with integrated freewheeling diode
- Integrated status LED
- Mechanical switch position indicator

## Commercial data

| | |
|---|---|
| Item number | 1012698 |
| Packing unit | 10 pc |
| Minimum order quantity | 10 pc |
| Sales key | C460 |
| Product key | DK6937 |
| GTIN | 4055626490175 |
| Weight per piece (including packing) | 19.3 g |
| Weight per piece (excluding packing) | 19.3 g |
| Customs tariff number | 85364900 |
| Country of origin | CN |

# Technical data

## Product properties

| | |
|---|---|
| Product type | Single relay |
| Mechanical service life | 5x $10^6$ cycles |

Data management status

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

## Electrical properties

| | |
|---|---|
| Service life electrical | see diagram |
| Maximum power dissipation for nominal condition | 0.43 W |
| Test voltage (Winding/contact) | 5 kV AC (50 Hz, 1 min.) |
| Test voltage (Contact/contact) | 2.5 kV AC (50 Hz, 1 min.) |
| Test voltage (open contact) | 1 kV (50 Hz, 1 min.) |

## Input data

Coil side

| | |
|---|---|
| Nominal input voltage $U_N$ | 110 V DC |
| Input voltage range | 88 V DC ... 242 V DC (20 °C) |
| Drive and function | monostable |
| Drive (polarity) | non-polarized |
| Typical input current at $U_N$ | 3.6 mA |
| Typical response time | 9 ms |
| Typical release time | 6 ms |

## Output data

Switching

| | |
|---|---|
| Contact switching type | 2 changeover contacts |
| 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 | 8 A |
| Maximum inrush current | 16 A (20 ms) |
| Min. switching current | 10 mA (at 12 V) |
| Interrupting rating (ohmic load) max. | 2000 VA (for 250 V AC) |
| Motor load according to UL 508 | 1/4 HP, 120 V AC (N/O contact) |
| | 1/2 HP, 240 V AC (N/O contact) |

## Connection data

| | |
|---|---|
| Connection method | Plug / solder connection |

## Dimensions

Item dimensions

| | |
|---|---|
| Width | 12.7 mm |
| Height | 29 mm |
| Depth | 25 mm |

## Environmental and real-life conditions

Ambient conditions

| | |
|---|---|
| Ambient temperature (operation) | -40 °C ... 70 °C |
| Ambient temperature (storage/transport) | -40 °C ... 85 °C |

## Approvals

Corrosive gas test

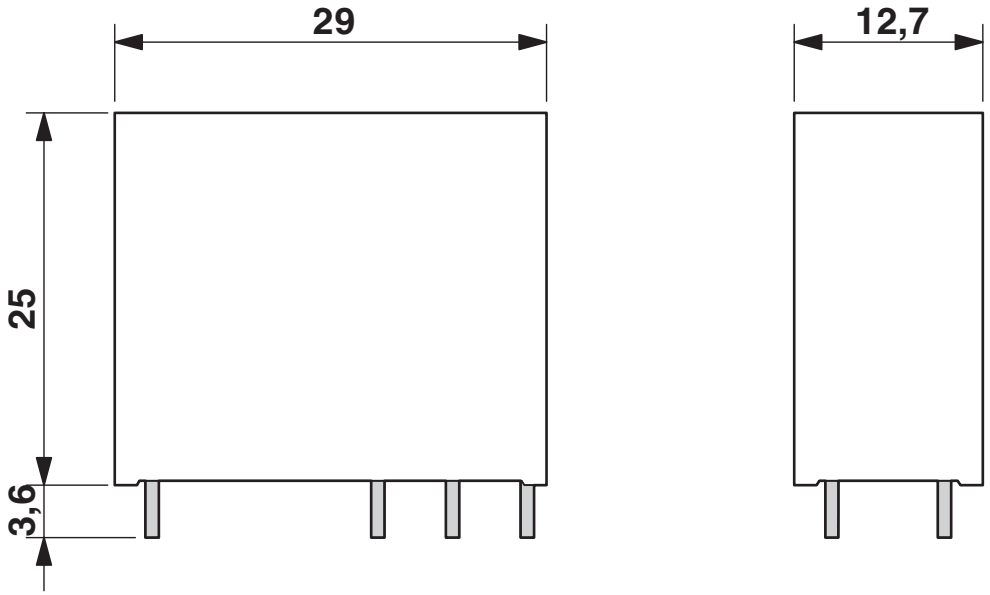
| | |
|---|---|
| Identification | ISA-S71.04. G3 Harsh Group |
| | EN 60068-2-60 |

## Standards and regulations

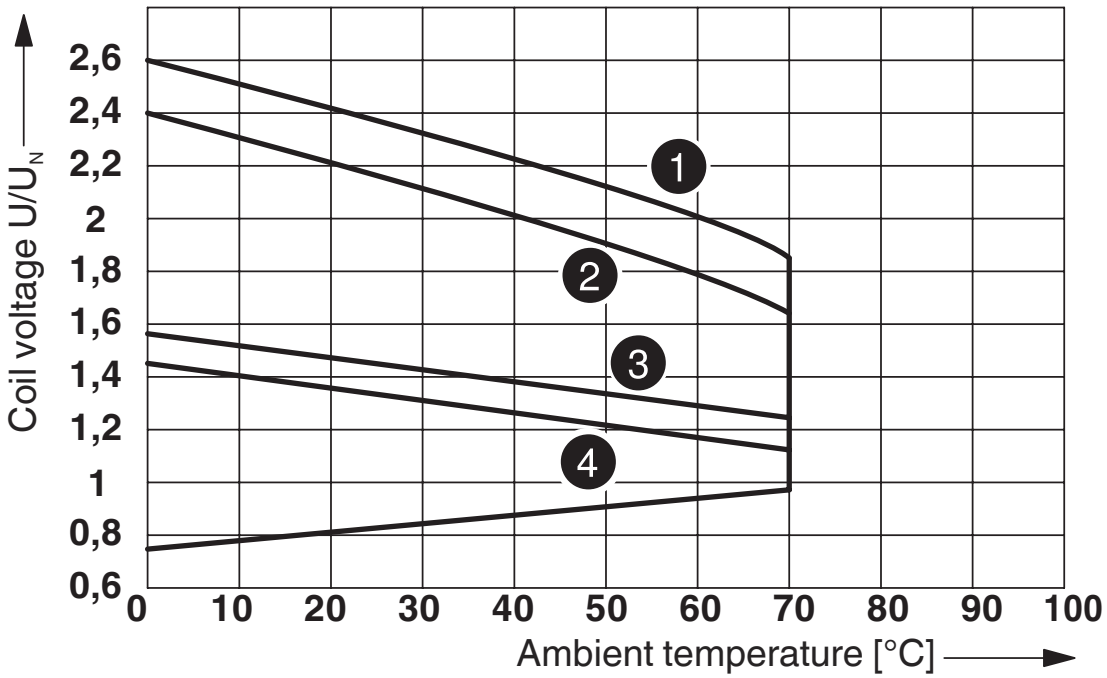
| | |
|---|---|
| Standards/regulations | EN 61810-1 |
| | VDE 0435-201 |
| | EN 50178 |

## Drawings

Dimensional drawing



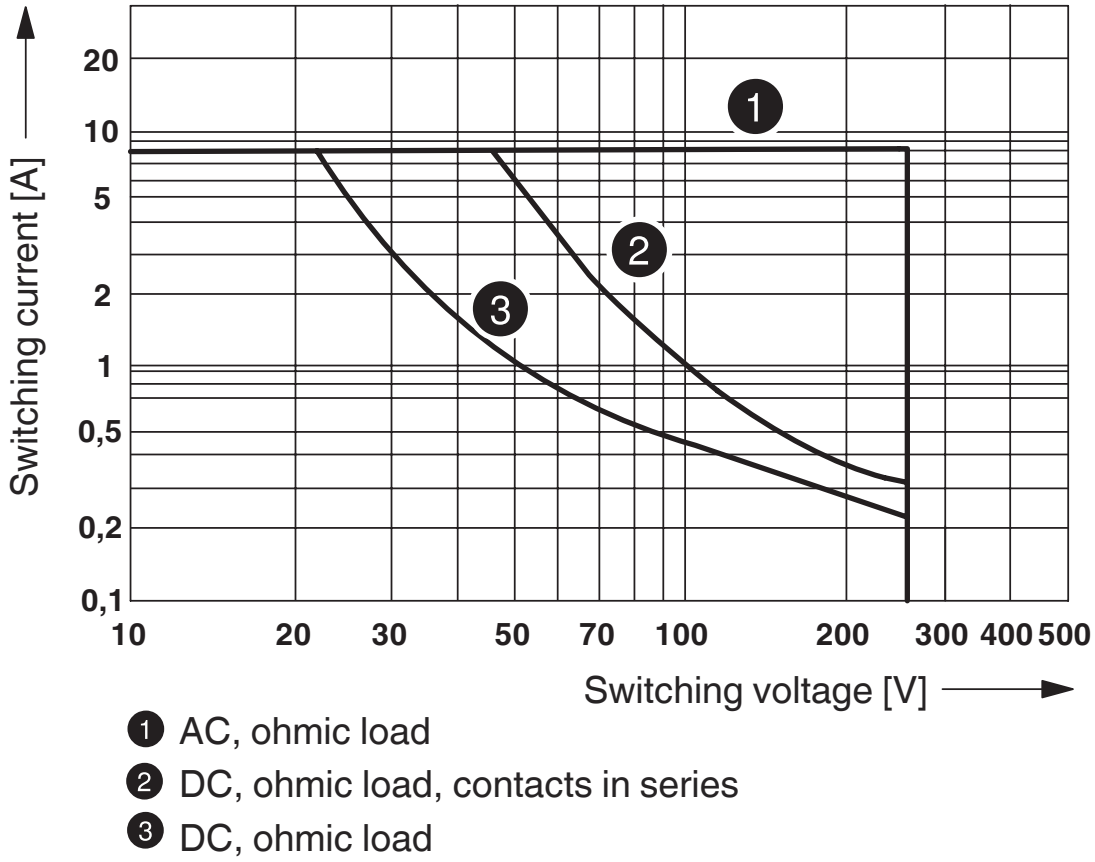

Diagram




1 DC coils, 0 A contact current
2 DC coils, 8 A contact current
3 AC coils, 0 A contact current
4 AC coils, 8 A contact current

Operating voltage range

Diagram



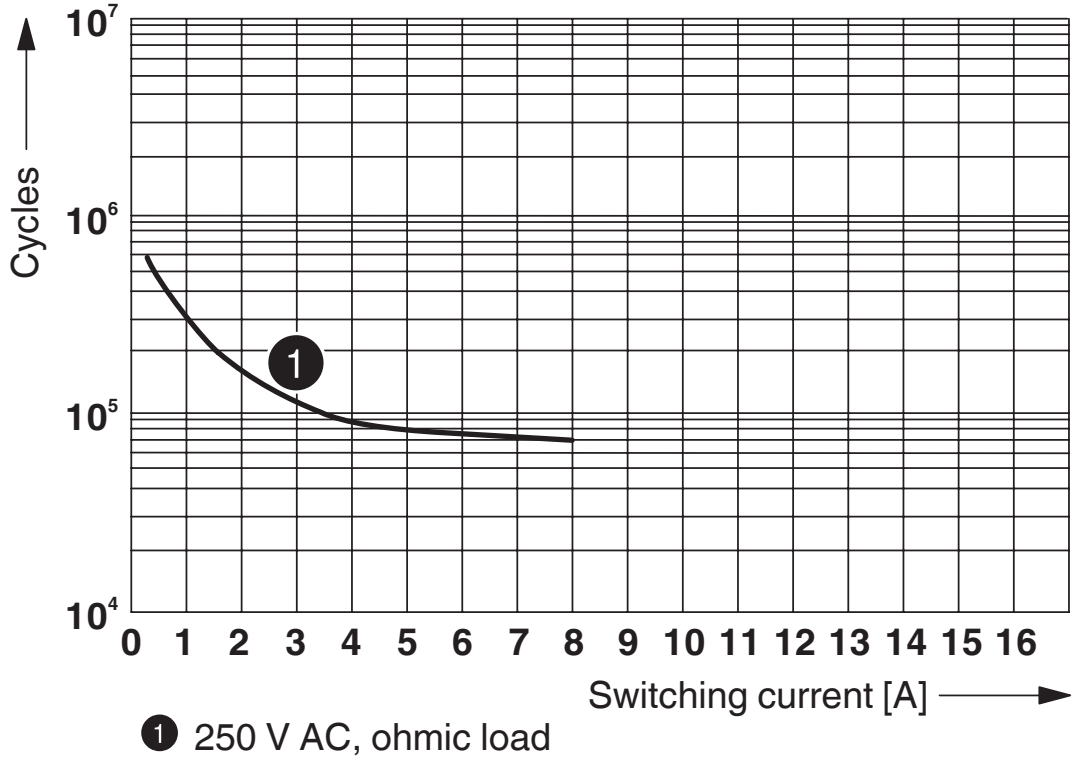

1 AC, ohmic load

2 DC, ohmic load, contacts in series

3 DC, ohmic load

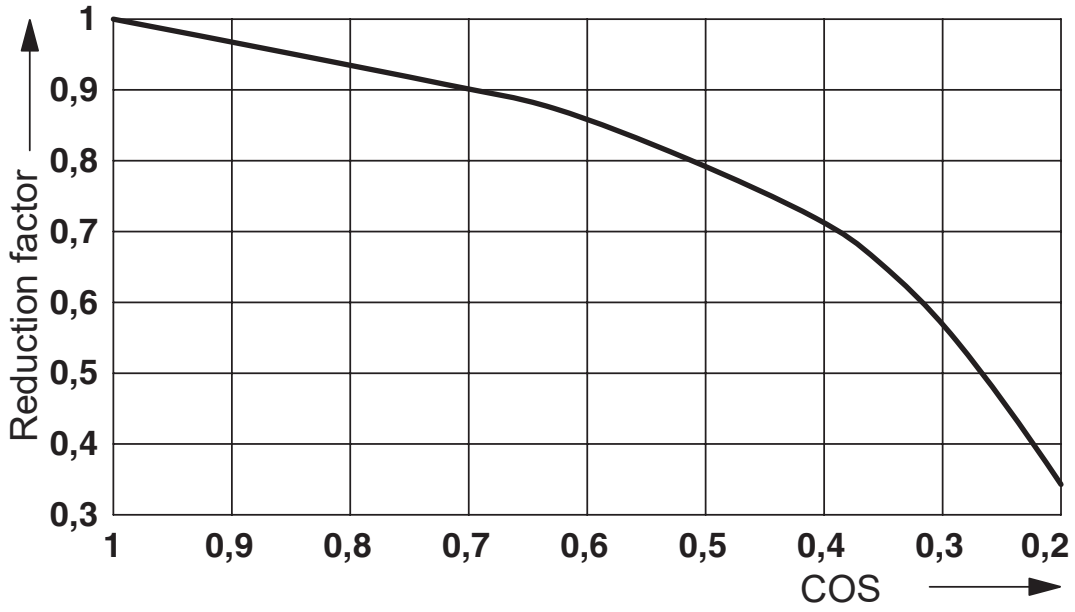
Interrupting rating

Diagram



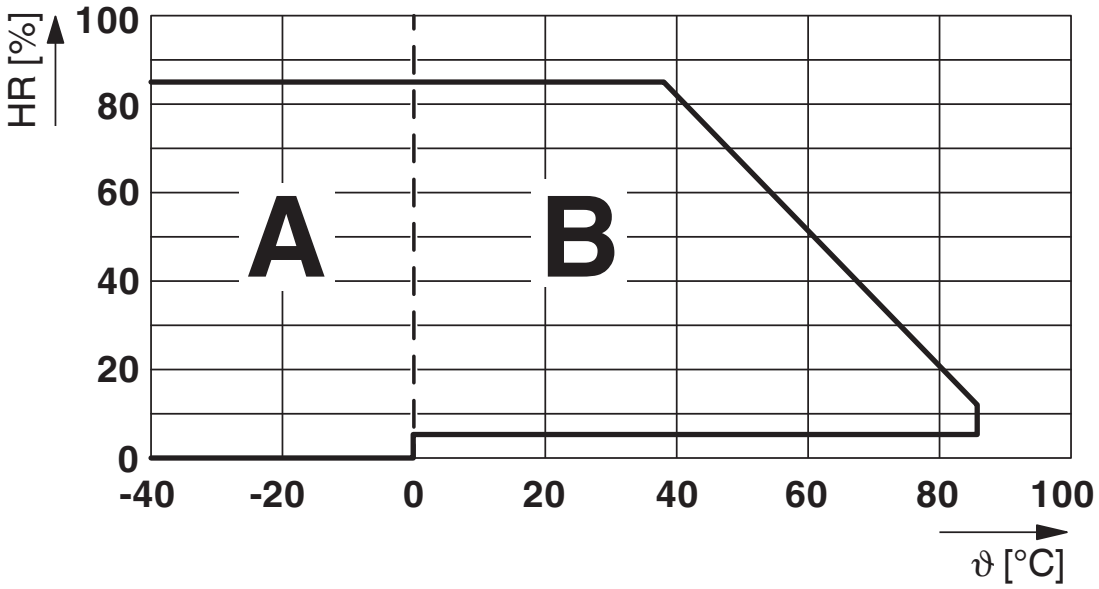

Electrical service life

Diagram




Service life reduction factor with various cos phi

Diagram

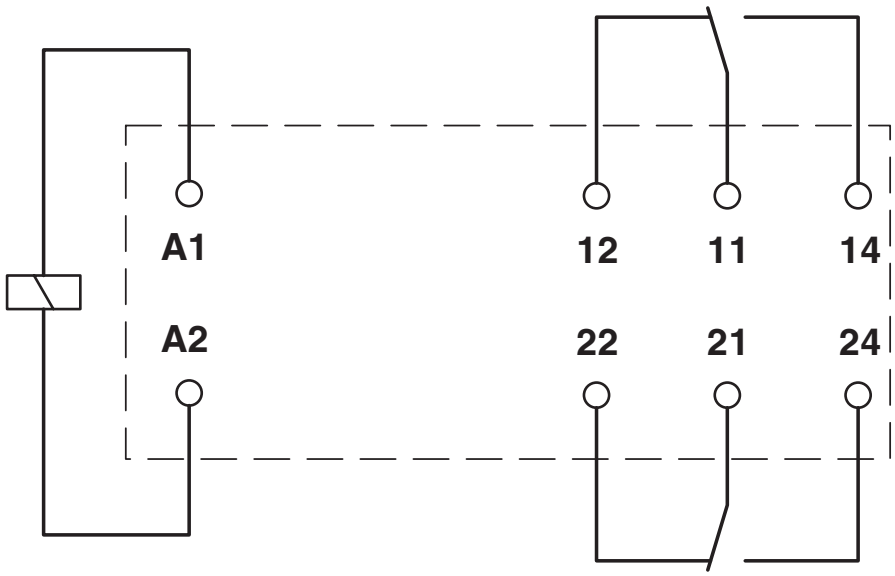



Permissible humidity for operation and storage.
The maximum permissible ambient temperature as specified in the data sheet must be observed.

Area A: Ice buildup at ambient temperatures ≤ 0°C must be prevented
Area B: Condensation at ambient temperatures > 0°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 ≤ 25°C.

Circuit diagram



## Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/1012698

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

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Approval ID: FILE E 172140

## Classifications

### ECLASS

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

### ETIM

| | |
|---|---|
| ETIM 10.0 | EC001437 |

### UNSPSC

| | |
|---|---|
| UNSPSC 21.0 | 39122300 |

## Environmental product compliance

EU RoHS

| | |
|---|---|
| Fulfills EU RoHS substance requirements | Yes |
| Exemption | 7(c)-I |

China RoHS

| | |
|---|---|
| Environment friendly use period (EFUP) | EFUP-50 |
| | An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required. |

EU REACH SVHC

| | |
|---|---|
| REACH candidate substance (CAS No.) | No substance above 0.1 wt% |

EF3.1 Climate Change

| | |
|---|---|
| CO2e kg | 0.404 kg CO2e |


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