

# REL-MR-120AC/21HC/MS - Single relay



2987901

<https://www.phoenixcontact.com/us/products/2987901>

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Plug-in miniature relay, with power contact, 1 changeover contact, test button, mechanical switching position indicator, status LED, input voltage 120 V AC

## Your advantages

- With detectable manual operation
- Switching current of up to 16 A
- DC types with integrated freewheeling diode
- Integrated status LED
- Mechanical switch position indicator

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 2987901       |
| Packing unit                         | 10 pc         |
| Minimum order quantity               | 10 pc         |
| Sales key                            | C460          |
| Product key                          | DK6933        |
| GTIN                                 | 4046356481038 |
| Weight per piece (including packing) | 18.83 g       |
| Weight per piece (excluding packing) | 17.58 g       |
| Customs tariff number                | 85364900      |
| Country of origin                    | CN            |

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## Technical data

### Product properties

|                         |                           |
|-------------------------|---------------------------|
| Product type            | Single relay              |
| Mechanical service life | 5x 10 <sup>6</sup> cycles |

### Data management status

|                              |            |
|------------------------------|------------|
| Date of last data management | 05.09.2025 |
|------------------------------|------------|

### Electrical properties

|                                                 |                                          |
|-------------------------------------------------|------------------------------------------|
| Service life electrical                         | see diagram                              |
| Maximum power dissipation for nominal condition | 0.84 W                                   |
| Test voltage (Winding/contact)                  | 5 kV AC (50 Hz, 1 min., winding/contact) |

### Input data

#### Coil side

|                                         |                                              |
|-----------------------------------------|----------------------------------------------|
| Nominal input voltage U <sub>N</sub>    | 120 V AC                                     |
| Input voltage range                     | 93.6 V AC ... 174 V AC                       |
| Mains frequency                         | 50/60 Hz                                     |
| Drive and function                      | monostable                                   |
| Drive (polarity)                        | non-polarized                                |
| Typical input current at U <sub>N</sub> | 7 mA                                         |
| Typical response time                   | 3 ms ... 12 ms (depending on phase relation) |
| Typical release time range              | 2 ms ... 8 ms (depending on phase relation)  |

### 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             | 12 V (at 10 mA)                |
| Limiting continuous current           | 16 A                           |
| Maximum inrush current                | 32 A (20 ms)                   |
| Min. switching current                | 10 mA (at 12 V)                |
| Interrupting rating (ohmic load) max. | 4000 VA (for 250 V AC)         |
| Switching capacity                    | 2 A (at 24 V, DC13)            |
|                                       | 3 A (at 24 V, AC15)            |
|                                       | 3 A (at 120 V, AC15)           |
|                                       | 3 A (at 240 V, AC15)           |
| Motor load according to UL 508        | 1/2 HP, 120 V AC (N/O contact) |
|                                       | 1 HP, 240 V AC (N/O contact)   |
|                                       | 1/3 HP, 120 V AC (N/C contact) |

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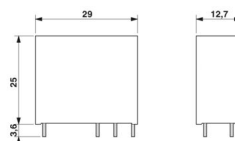
|  |                                |
|--|--------------------------------|
|  | 1/2 HP, 240 V AC (N/C contact) |
|--|--------------------------------|

## Connection data

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

## Dimensions

|                     |         |
|---------------------|---------|
| Dimensional drawing |         |
| 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

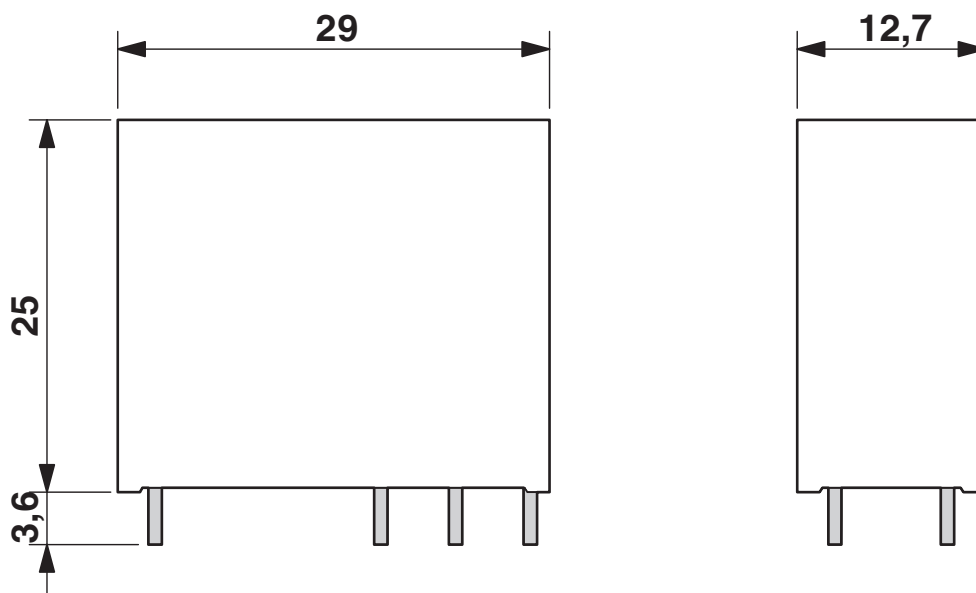
|                    |                            |
|--------------------|----------------------------|
| Corrosive gas test |                            |
| Identification     | ISA-S71.04. G3 Harsh Group |
|                    | EN 60068-2-60              |

## Standards and regulations

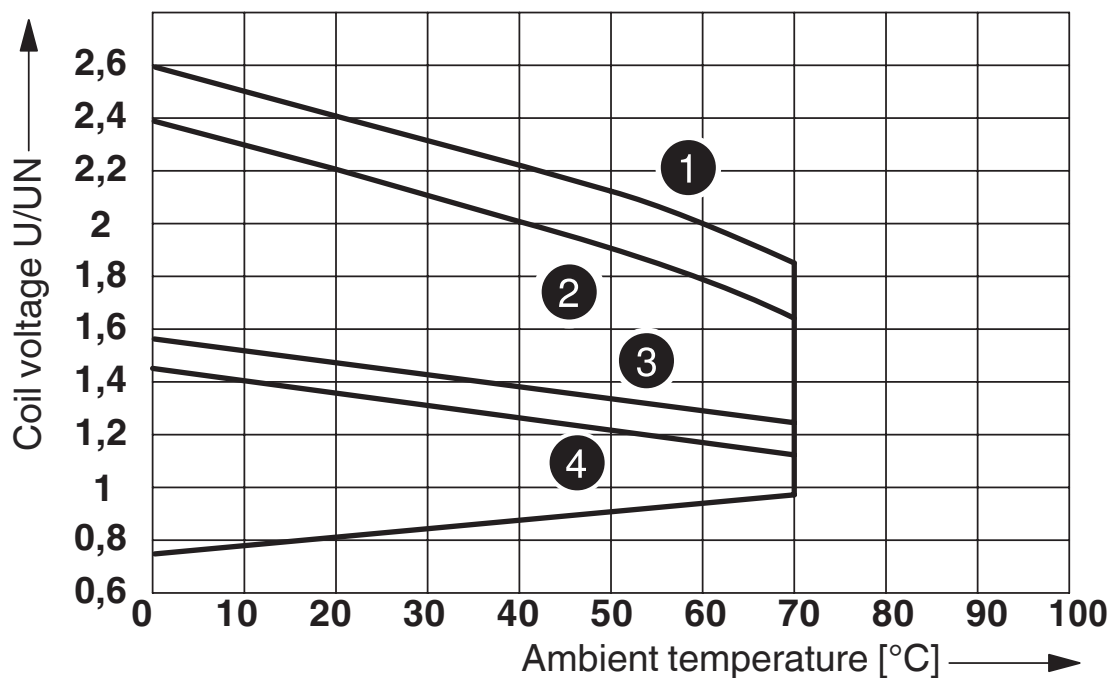
|                       |              |
|-----------------------|--------------|
| Standards/regulations | EN 61810-1   |
|                       | VDE 0435-201 |
|                       | EN 50178     |

## Drawings

Dimensional drawing



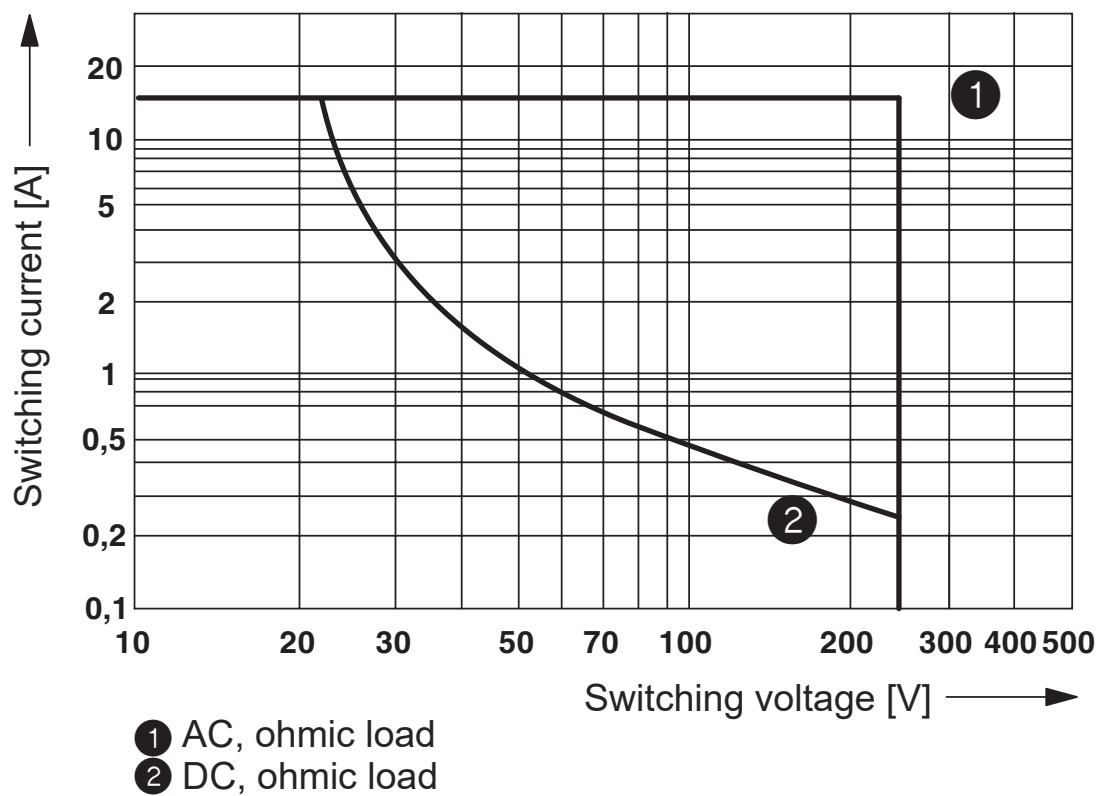
Diagram



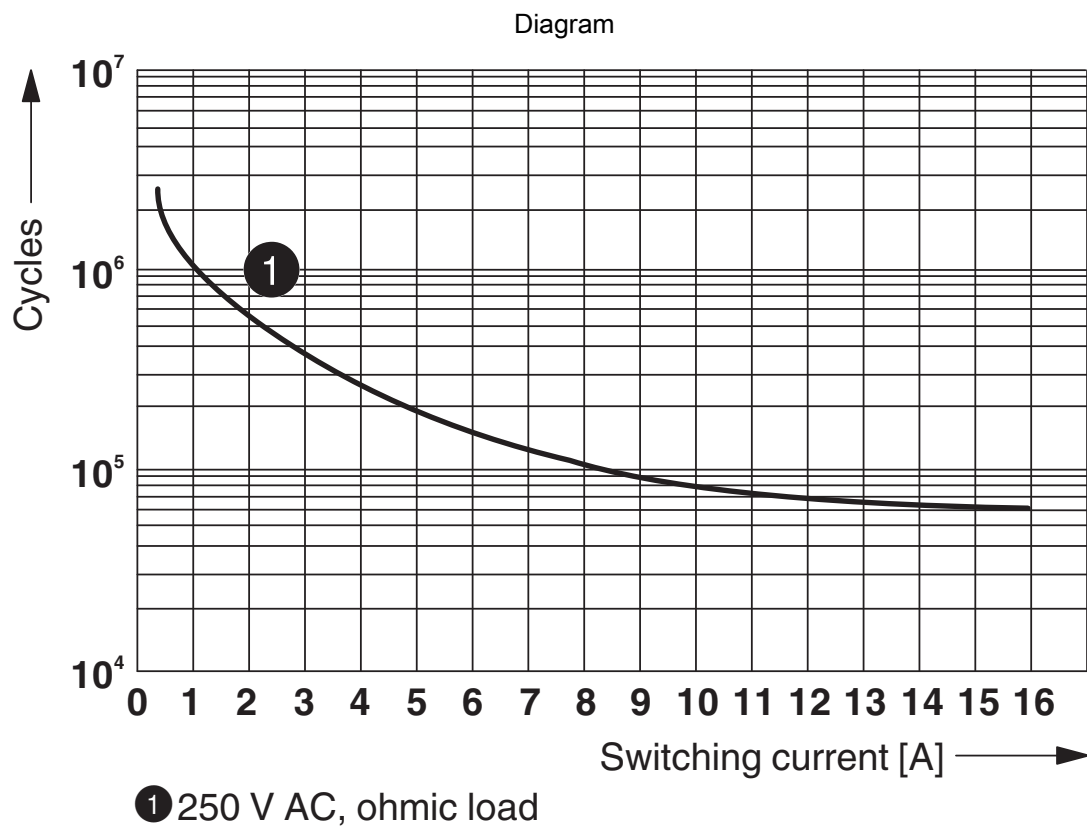
- ① DC coils, 0 A contact current
- ② DC coils, 16 A contact current
- ③ AC coils, 0 A contact current
- ④ AC coils, 16 A contact current

Operating voltage range

Diagram



Interrupting rating



Electrical service life

Diagram



Service life reduction factor with various cos phi



Permissible humidity for operation and storage.

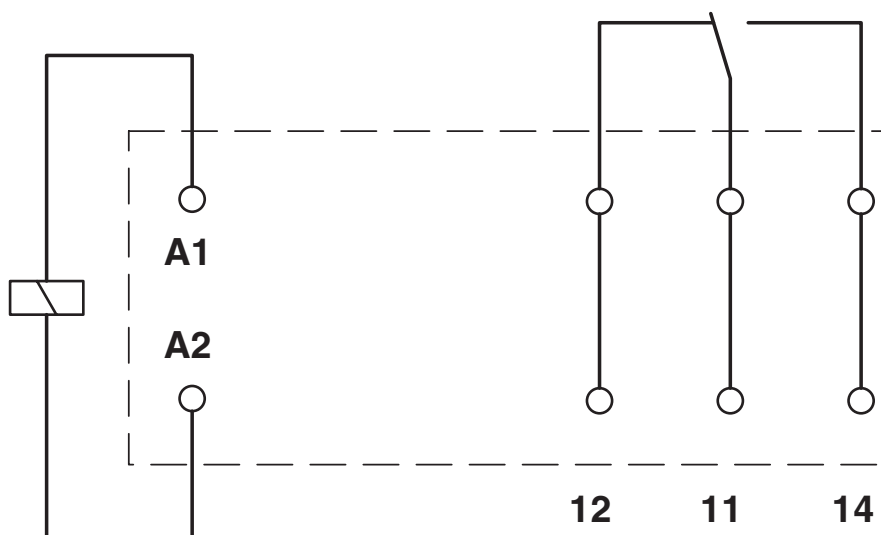
The maximum permissible ambient temperature as specified in the data sheet must be observed.

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

Circuit diagram



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2987901>



**cUL Recognized**  
Approval ID: FILE E 195083



**UL Recognized**  
Approval ID: FILE E 195083



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



**VDE approval of drawings**  
Approval ID: 40027210

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27371601 |
| ECLASS-15.0 | 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    |
| Exemption                               | 7(c)-I |

### 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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