

REL-MR- 24DC/21-21/MS - Single relay



2987943

<https://www.phoenixcontact.com/us/products/2987943>

Please be informed that the data shown in this PDF document is generated from our online catalog. Please find the complete data in the user documentation. Our general terms of use for downloads are valid.



Plug-in miniature relay, with power contact, 2 changeover contacts, test button, mechanical switching position indicator, status LED, freewheeling diode, polarity A1+, A2, input voltage 24 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 | 2987943 |
| Packing unit | 10 pc |
| Minimum order quantity | 10 pc |
| Sales key | C460 |
| Product key | DK6937 |
| GTIN | 4046356480659 |
| Weight per piece (including packing) | 19.576 g |
| Weight per piece (excluding packing) | 18.64 g |
| Customs tariff number | 85364190 |
| Country of origin | CN |

REL-MR- 24DC/21-21/MS - Single relay



2987943

<https://www.phoenixcontact.com/us/products/2987943>

Technical data

Product properties

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

Data management status

| | |
|------------------------------|------------|
| Date of last data management | 23.06.2025 |
|------------------------------|------------|

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 | 24 V DC |
| Input voltage range | 19.2 V DC ... 52.8 V DC |
| Input voltage range in reference to U_N | see diagram |
| Drive and function | monostable |
| Drive (polarity) | non-polarized |
| Typical input current at U_N | 18 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) |
| Switching capacity | 1 A (at 24 V, DC13) |
| | 1.5 A (at 24 V, AC15) |
| | 1.5 A (at 120 V, AC15) |
| | 1.5 A (at 240 V, AC15) |
| | 1/4 HP, 120 V AC (N/O contact) |

REL-MR- 24DC/21-21/MS - Single relay



2987943

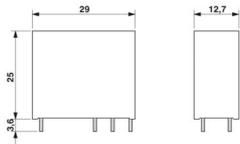
<https://www.phoenixcontact.com/us/products/2987943>

| | |
|--------------------------------|--------------------------------|
| Motor load according to UL 508 | 1/2 HP, 240 V AC (N/O contact) |
| | 1/4 HP, 120 V AC (N/C contact) |
| | 1/3 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

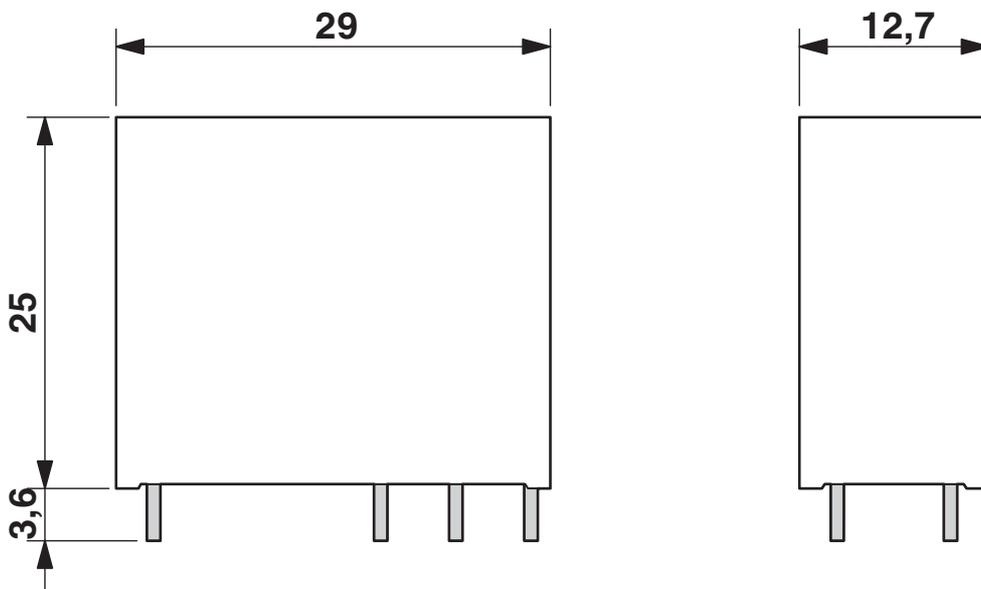
| | |
|----------------|----------------------------|
| Identification | ISA-S71.04. G3 Harsh Group |
| | EN 60068-2-60 |

Standards and regulations

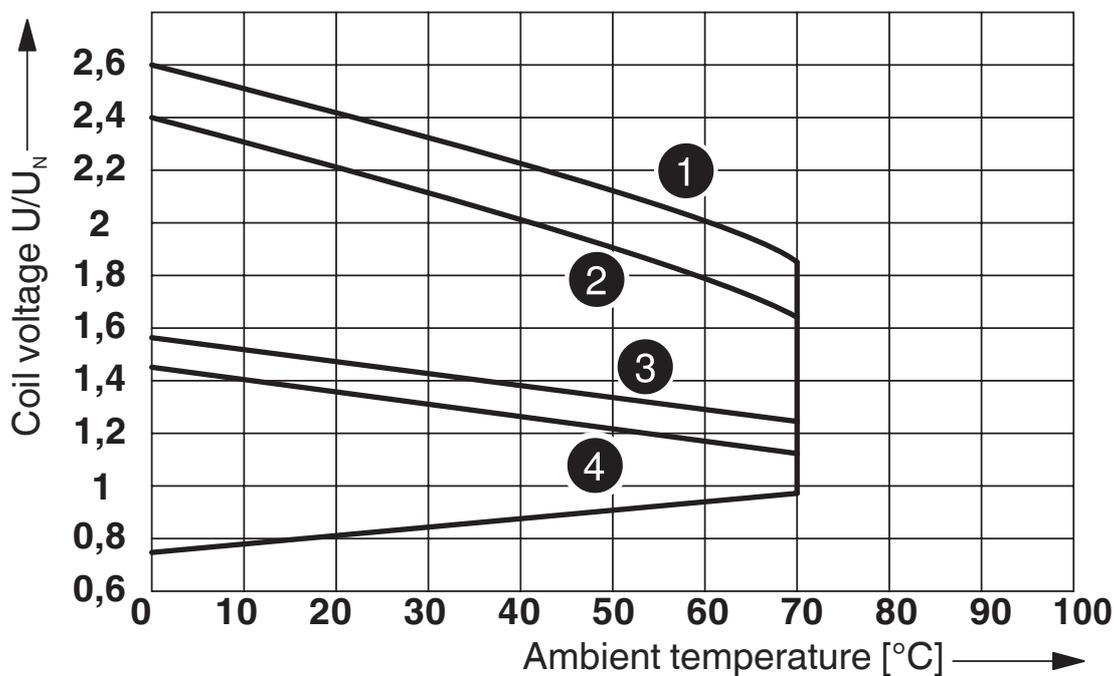
| | |
|-----------------------|--------------|
| Standards/regulations | EN 61810-1 |
| | VDE 0435-201 |
| | EN 50178 |

Drawings

Dimensional drawing

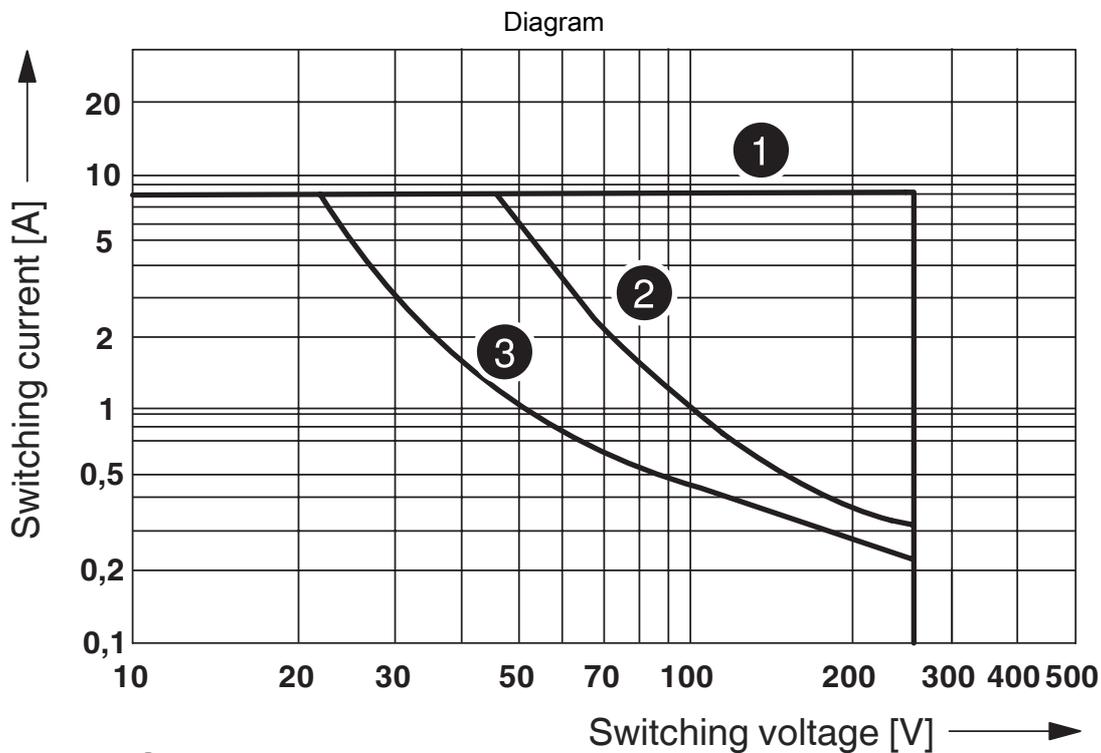


Diagram



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

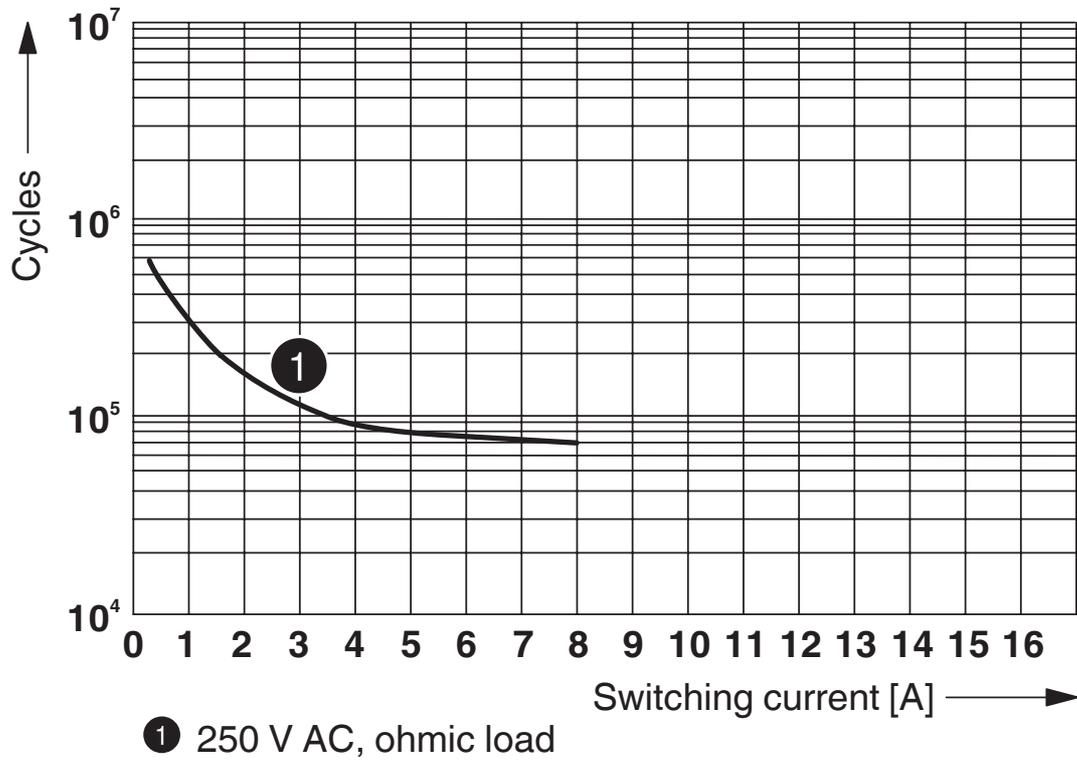
Operating voltage range



- ① AC, ohmic load
- ② DC, ohmic load, contacts in series
- ③ DC, ohmic load

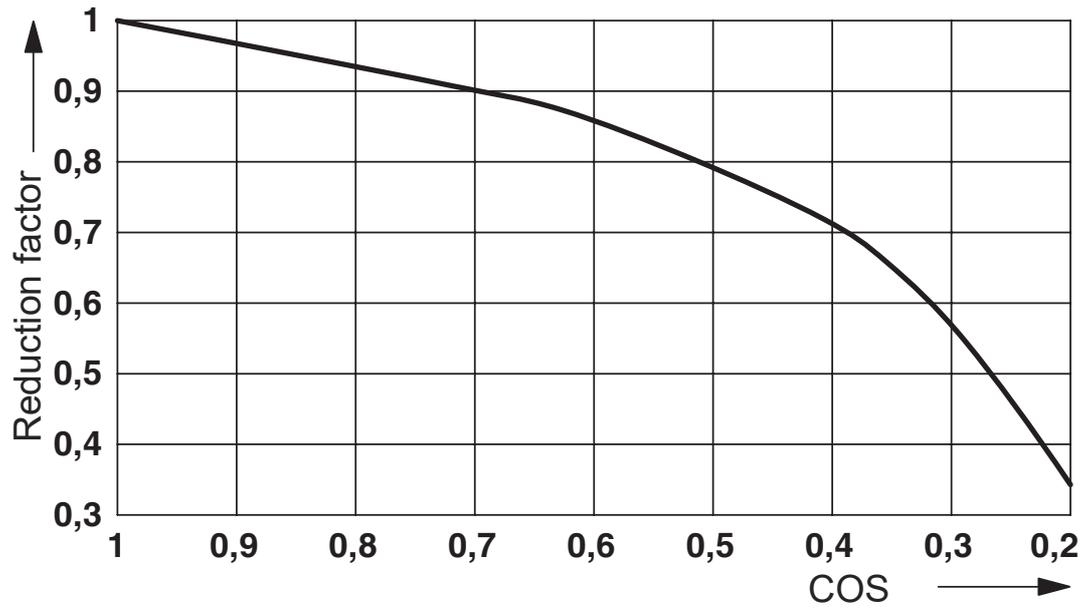
Interrupting rating

Diagram



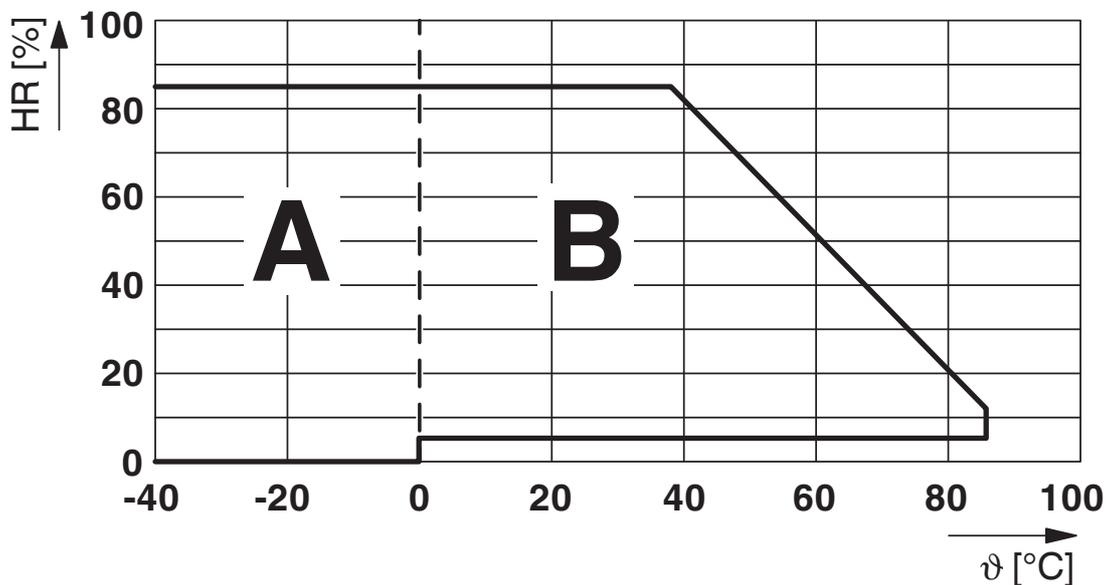
Electrical service life

Diagram



Service life reduction factor with various cos phi

Diagram



Permissible humidity for operation and storage.

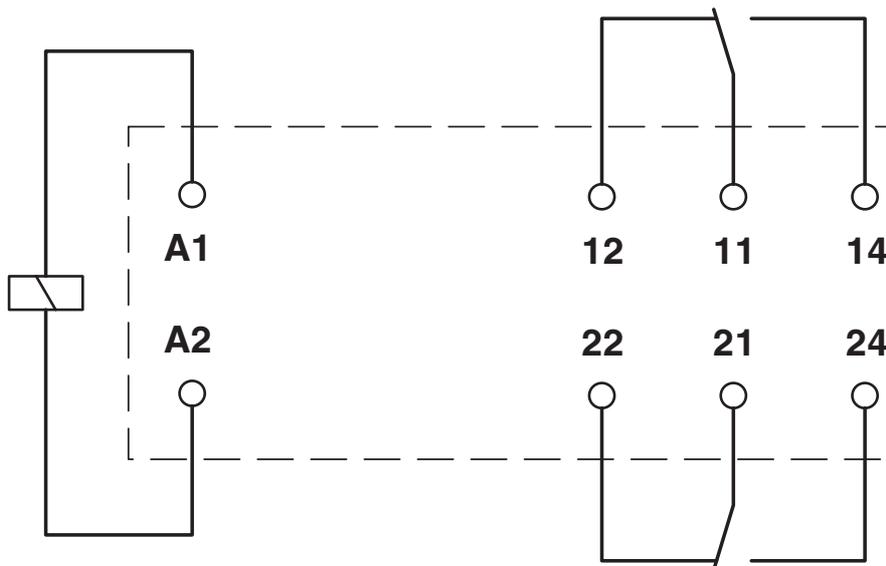
The maximum permissible ambient temperature as specified in the data sheet must be observed.

Area A: Ice buildup at ambient temperatures $\leq 0^{\circ}\text{C}$ 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



2987943

<https://www.phoenixcontact.com/us/products/2987943>

Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2987943>



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

REL-MR- 24DC/21-21/MS - Single relay



2987943

<https://www.phoenixcontact.com/us/products/2987943>

Classifications

ECLASS

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

ETIM

| | |
|----------|----------|
| ETIM 9.0 | EC001437 |
|----------|----------|

UNSPSC

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

REL-MR- 24DC/21-21/MS - Single relay



2987943

<https://www.phoenixcontact.com/us/products/2987943>

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% |
|-------------------------------------|----------------------------|

EF3.0 Climate Change

| | |
|---------|-------------|
| CO2e kg | 0.2 kg CO2e |
|---------|-------------|

Phoenix Contact 2025 © - all rights reserved

<https://www.phoenixcontact.com>

Phoenix Contact USA
586 Fulling Mill Road
Middletown, PA 17057, United States
(+717) 944-1300
info@phoenixcon.com