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

2908181

https://www.phoenixcontact.com/us/products/2908181

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Plug-in miniature relay, with power contact, 2 changeover contacts, test button, mechanical switch position indicator, polarity: bipolar, input voltage: 24 V DC

## Commercial data

| | |
|---|---|
| Item number | 2908181 |
| Packing unit | 10 pc |
| Minimum order quantity | 10 pc |
| Sales key | C460 |
| Product key | CK6195 |
| Catalog page | Page 294 (C-5-2019) |
| GTIN | 4055626279404 |
| Weight per piece (including packing) | 19.1 g |
| Weight per piece (excluding packing) | 18 g |
| Customs tariff number | 85364190 |
| Country of origin | CN |

# Technical data

## Product properties

| | |
|---|---|
| Product type | Single relay |
| Operating mode | 100% operating factor |
| Mechanical service life | 5x $10^6$ cycles |

Insulation characteristics

| | |
|---|---|
| Overvoltage category | III |
| Pollution degree | 2 |

## Electrical properties

| | |
|---|---|
| Service life electrical | see diagram |
| Maximum power dissipation for nominal condition | 0.41 W |
| Test voltage (Winding/contact) | 5 kV AC (50 Hz, 1 min., winding/contact) |
| Test voltage (Changeover contact/changeover contact) | 2.5 kV AC (50 Hz, 1 min., changeover contact/changeover contact) |
| Rated insulation voltage | 250 V AC |

## 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 $U_N$ | 0.8 ... 2.2 (see diagram) |
| Drive and function | monostable |
| Drive (polarity) | non-polarized |
| Typical input current at $U_N$ | 17 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. | 192 W (at 24 V DC) |
| | 62 W (at 48 V DC) |
| | 42 W (at 60 V DC) |

| | |
|---|---|
| | 55 W (at 110 V DC) |
| | 66 W (at 220 V DC) |

## Connection data

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

## Dimensions

| | |
|---|---|
| Width | 13 mm |
| Height | 29 mm |
| Depth | 25.5 mm |

## 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

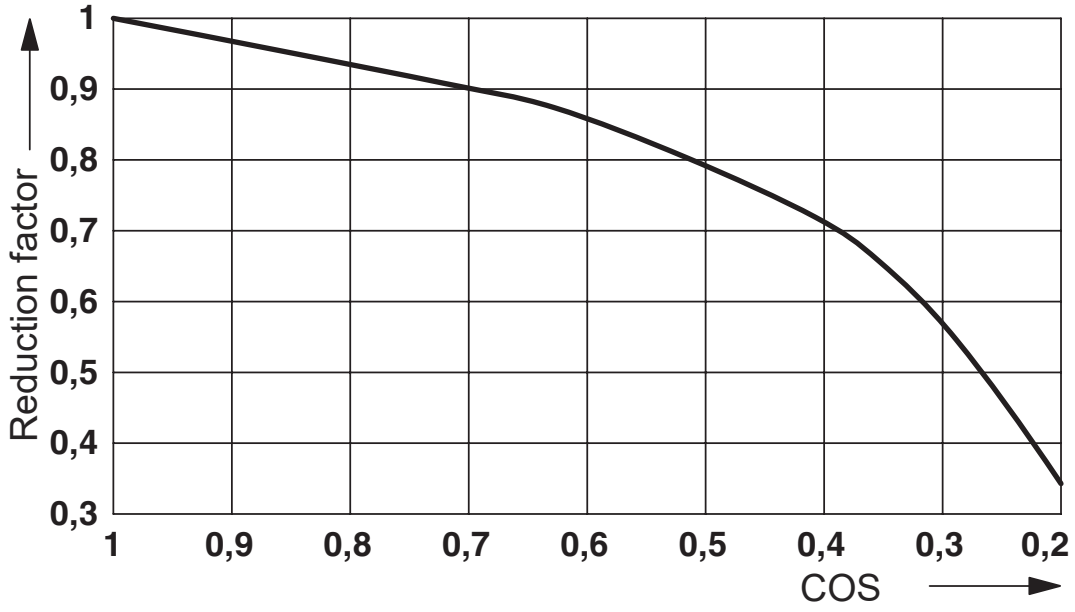
| | |
|---|---|
| Standards/regulations | IEC 61810 |
| | IEC 60664 |

## Mounting

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

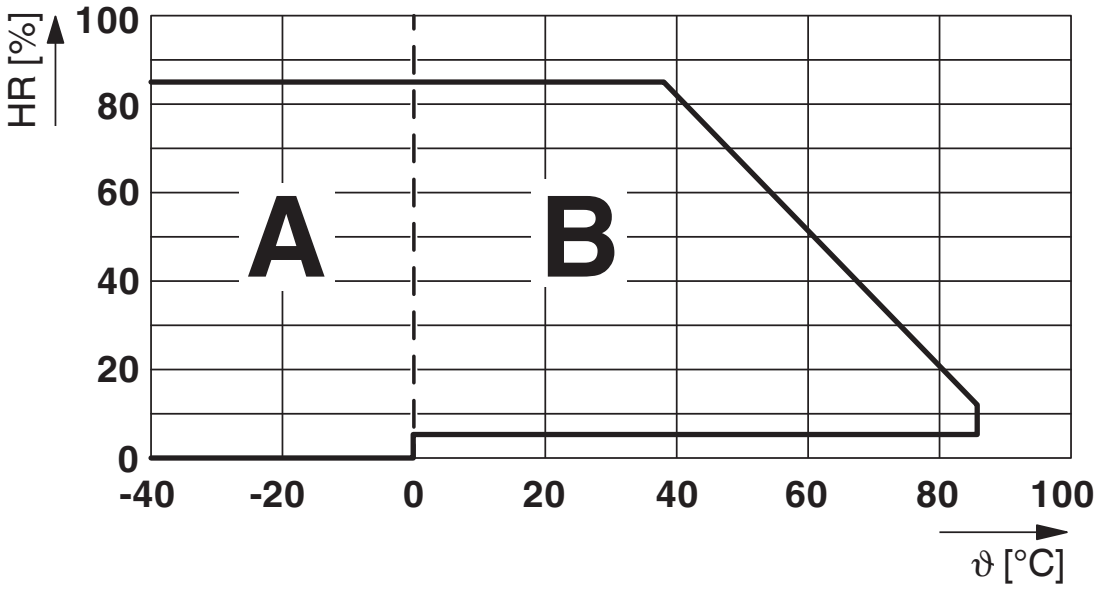
## Drawings

Diagram




Service life reduction factor with various cos phi

Diagram

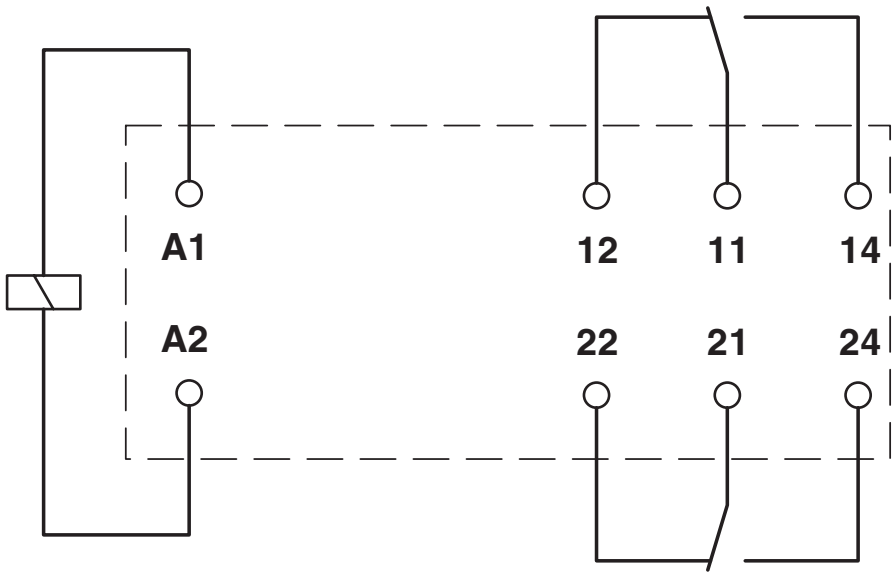



Permissible humidity for operation and storage.
The maximum permissible ambient temperature as specified in the data sheet must be observed.

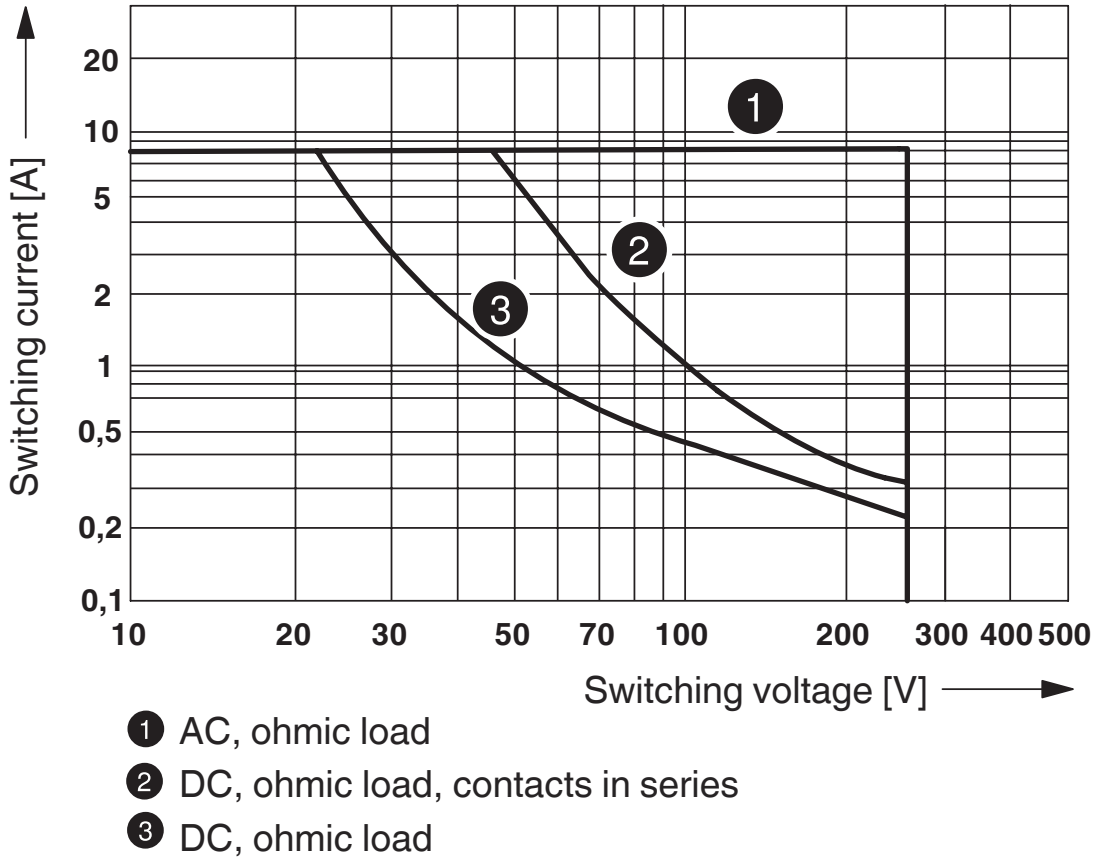
Area A: Ice buildup at ambient temperatures ≤ 0°C must be prevented
Area B: Condensation at ambient temperatures > 0°C must be prevented

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



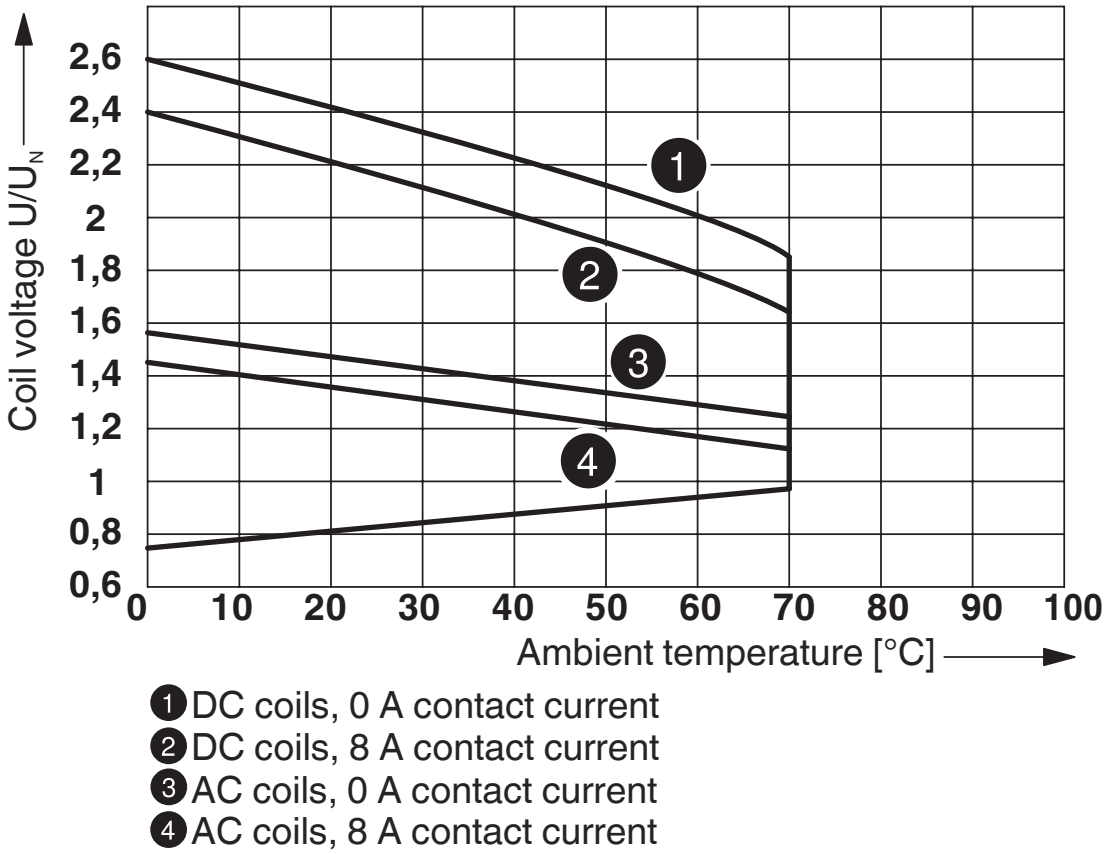
Diagram




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

Interrupting rating

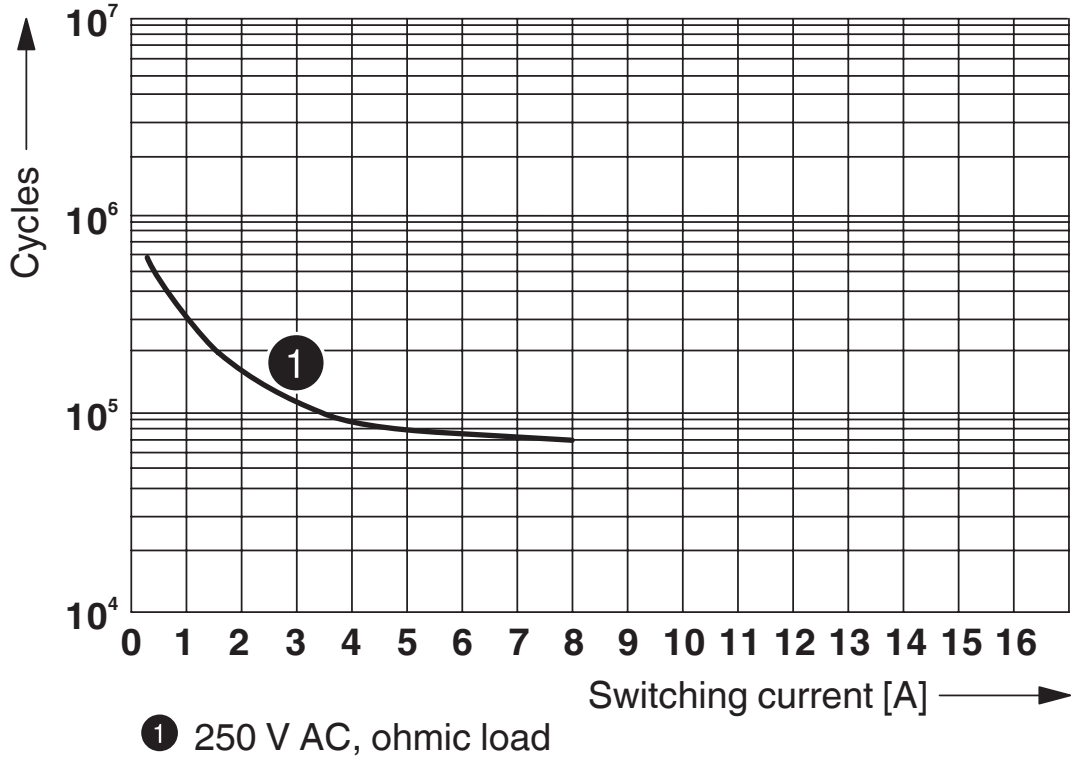
Diagram




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




Electrical service life

## Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/2908181

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

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

**EAC**
Approval ID: TR_TS_D_00573_c

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

**cULus Recognized**

## Classifications

### ECLASS

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

### ETIM

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

### UNSPSC

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

## 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

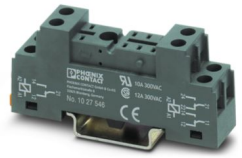
| | |
|---|---|
| REACH candidate substance (CAS No.) | No substance above 0.1 wt% |

## 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

## RIF-1-BPT/2X21 - Relay base

2900931

https://www.phoenixcontact.com/us/products/2900931



Relay base RIF-1..., for miniature power relay with 1 or 2 changeover contacts or solid-state relays of the same design, Push-in connection, plug-in option for input/interference suppression modules, for mounting on NS 35/7,5

## RIF-1-BSC/2X21 - Relay base

2900930

https://www.phoenixcontact.com/us/products/2900930



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