

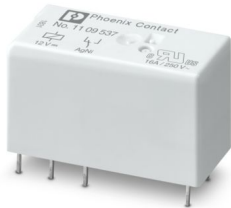
REL-MR-BL- 12DC/21HC - Single relay



1109537

<https://www.phoenixcontact.com/gb/products/1109537>

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Pluggable miniature power relay in basic design, with power contact for high continuous currents, 1 changeover contact, input voltage 12 V DC

Commercial data

| | |
|--------------------------------------|---------------|
| Item number | 1109537 |
| Packing unit | 20 pc |
| Minimum order quantity | 20 pc |
| Sales key | DKF921 |
| Product key | DKF921 |
| GTIN | 4063151020798 |
| Weight per piece (including packing) | 12.46 g |
| Weight per piece (excluding packing) | 12.46 g |
| Customs tariff number | 85364190 |
| 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 ⁷ cycles |

Insulation characteristics

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

Data management status

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

Electrical properties

| | |
|---|--|
| Service life electrical | see diagram |
| Maximum power dissipation for nominal condition | 0.4 W |
| Test voltage (Winding/contact) | 5 kV AC (50 Hz, 1 min., winding/contact) |
| Rated insulation voltage | 250 V AC |
| Rated surge voltage | 4 kV |

Input data

Coil side

| | |
|--------------------------------|-------------------------|
| Nominal input voltage U_N | 12 V DC |
| Input voltage range | 8.4 V DC ... 27 V DC |
| Drive and function | monostable |
| Drive (polarity) | non-polarized |
| Typical input current at U_N | 33.3 mA |
| Typical response time | 8 ms |
| Typical release time | 6 ms |
| Coil voltage | 12 V DC |
| Coil resistance | 360 Ω \pm 10 % |

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) |
| | 4000 VA (for 250 V AC) |
| Switching capacity | 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 | white (RAL 9010) |
|-------|------------------|

Environmental and real-life conditions

Ambient conditions

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

Standards and regulations

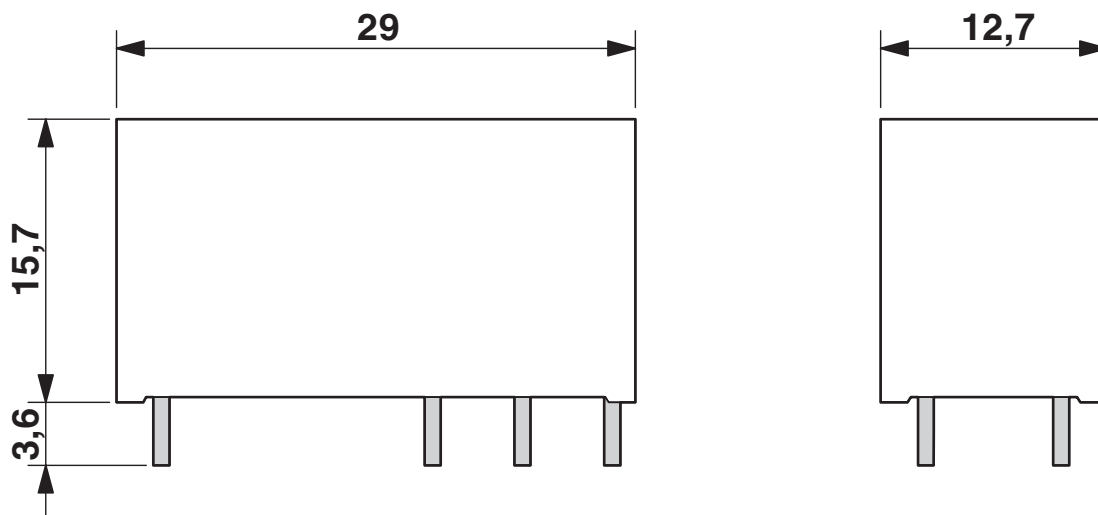
| | |
|-----------------------|------------|
| Standards/regulations | IEC 60664 |
| | EN 61810-1 |

Mounting

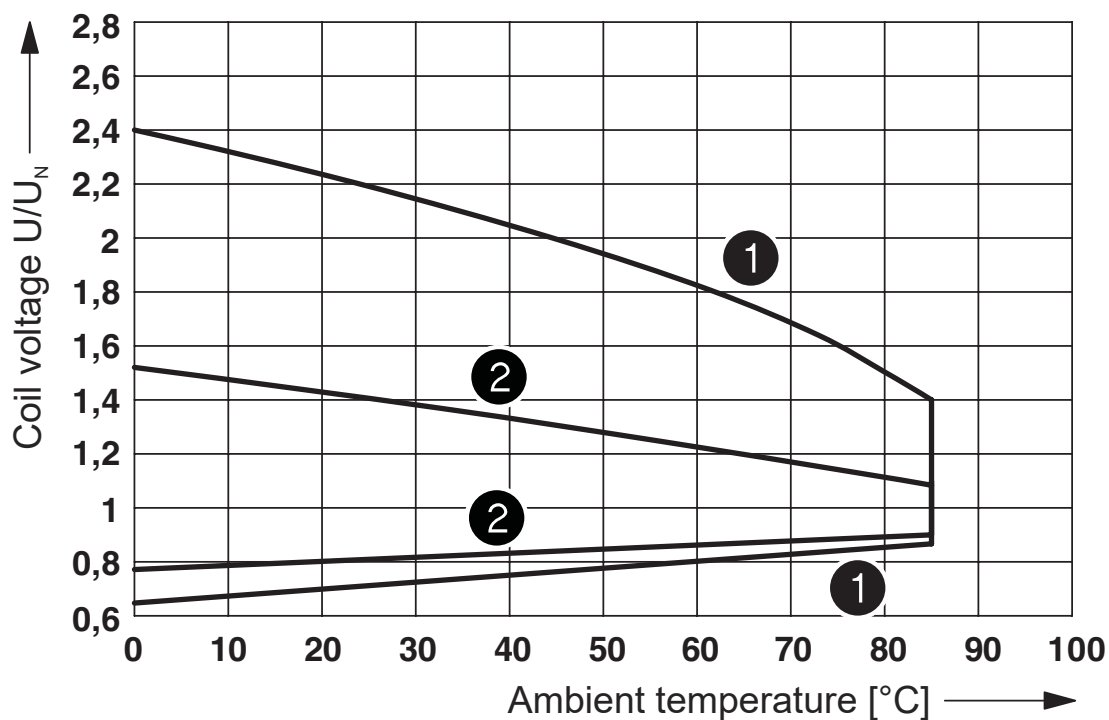
| | |
|-------------------|------------------|
| Mounting type | Plug-in mounting |
| Mounting position | any |

Drawings

Dimensional drawing



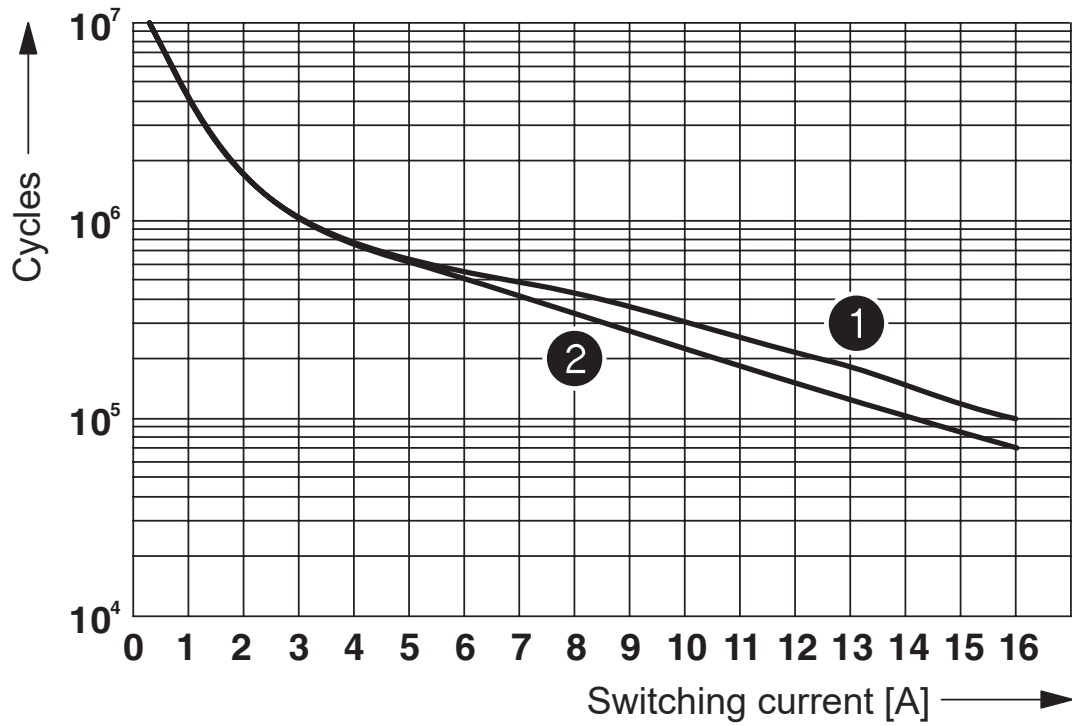
Diagram



- ① DC coils
- ② AC coils

Operating voltage range

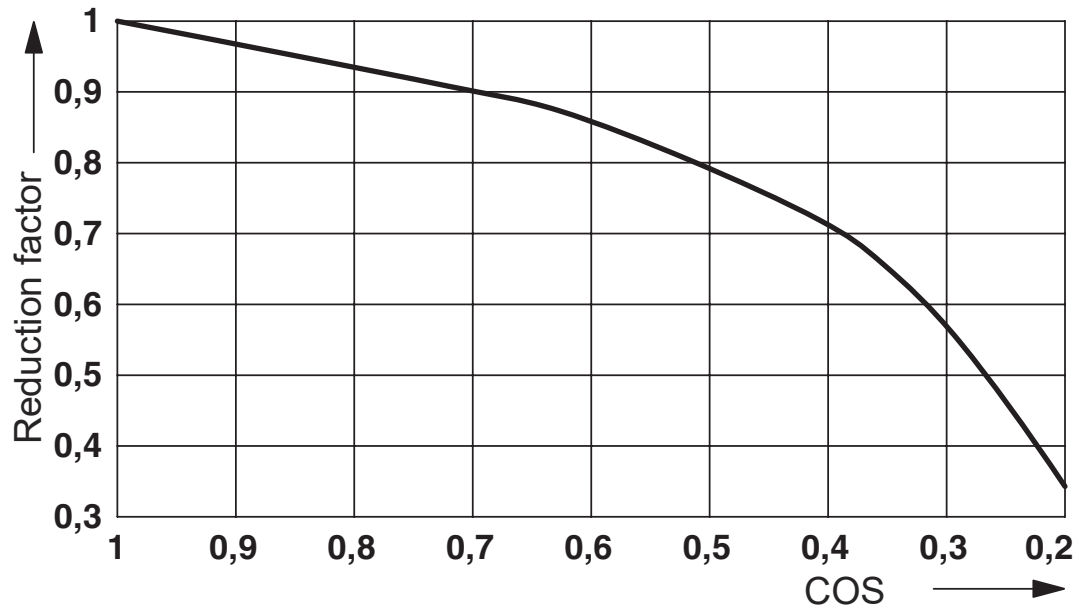
Diagram



- 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



Permissible humidity for operation and storage.

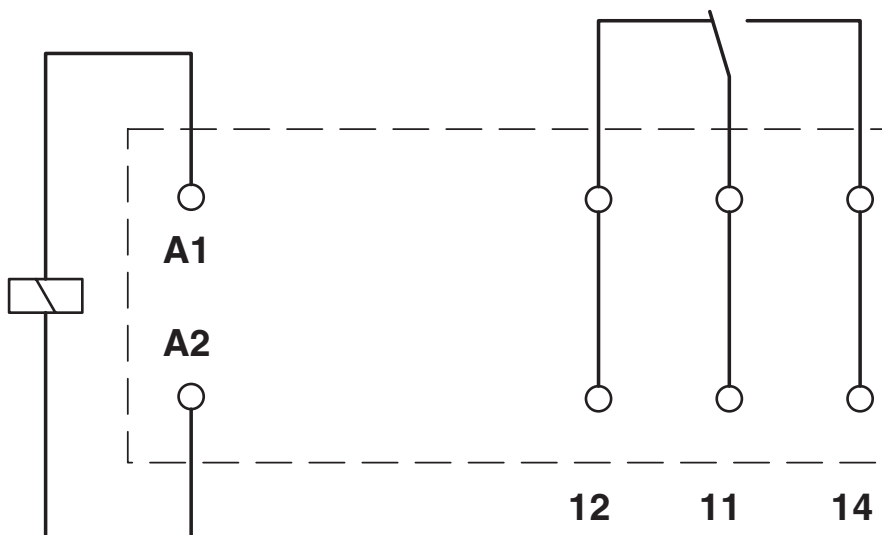
The maximum permissible ambient temperature as specified in the data sheet must be observed.

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



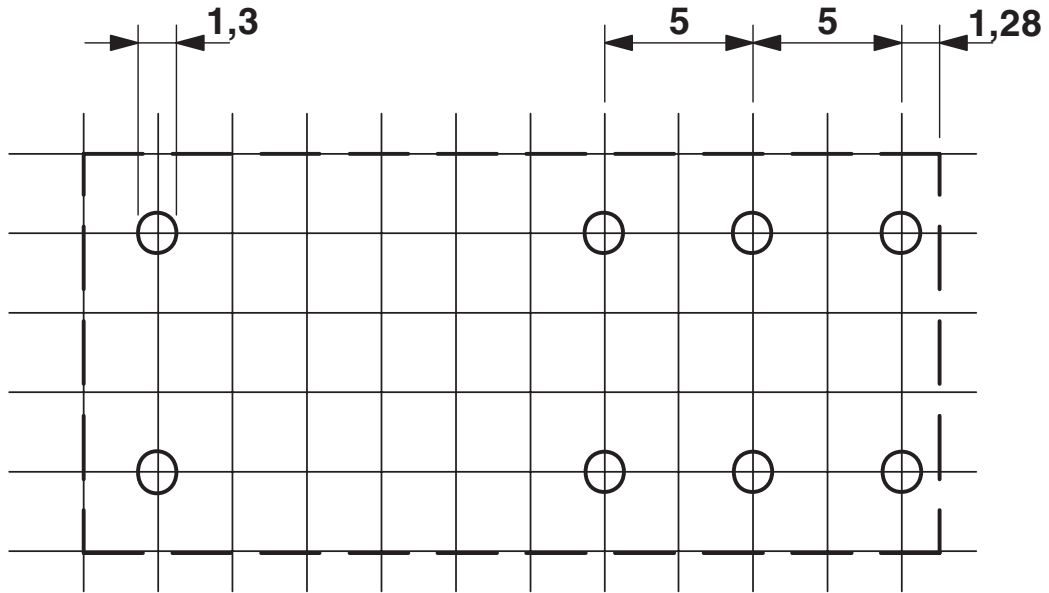
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Drilling plan/solder pad geometry



Basic pitch 2.5 mm

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Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/gb/products/1109537>



cUL Recognized
Approval ID: FILE E 228652



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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, 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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