# REL-MR- 12DC/21-21AU - Single relay

2961299

https://www.phoenixcontact.com/us/products/2961299

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 power relay, with multi-layer gold contact, 2 changeover contacts, input voltage 12 V DC

## Your advantages

- RT III-proof (wash-proof)

## Commercial data

| | |
|---|---|
| Item number | 2961299 |
| Packing unit | 10 pc |
| Minimum order quantity | 10 pc |
| Sales key | C460 |
| Product key | DK6936 |
| GTIN | 4017918164041 |
| Weight per piece (including packing) | 16.34 g |
| Weight per piece (excluding packing) | 14.98 g |
| Customs tariff number | 85364900 |
| Country of origin | AT |

# Technical data

## Product properties

| | |
|---|---|
| Product type | Single relay |
| Operating mode | 100% operating factor |
| Mechanical service life | 3x $10^7$ cycles |

### Insulation characteristics

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

### Data management status

| | |
|---|---|
| Date of last data management | 09.10.2026 |

## 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.) |
| 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 $U_N$ | 12 V DC |
| Input voltage range | 7.8 V DC ... 29.76 V DC |
| Drive and function | monostable |
| Drive (polarity) | non-polarized |
| Typical input current at $U_N$ | 33 mA |
| Typical response time | 7 ms |
| Typical release time | 3 ms |
| Coil resistance | 360 Ω ±10 % (at 20 °C) |

## Output data

### Switching

| | |
|---|---|
| Contact switching type | 2 changeover contacts |
| Type of switch contact | Single contact |
| Contact material | AgNi, hard gold-plated |
| Maximum switching voltage | 30 V AC |
| | 36 V DC |
| Minimum switching voltage | 100 mV (at 10 mA) |
| Limiting continuous current | 50 mA |
| Maximum inrush current | 50 mA |

| | |
|---|---|
| Min. switching current | 1 mA (at 24 V) |
| Interrupting rating (ohmic load) max. | 1.2 W (at 24 V DC) |
| Switching power min. | 0.12 W |

Switching: when the gold layer is destroyed

| | |
|---|---|
| Note | the following values are applicable if a gold layer is destroyed |
| Contact material | AgNi |
| Maximum switching voltage | 250 V |
| Minimum switching voltage | 5 V (at 10 mA) |
| Limiting continuous current | 8 A |
| Maximum inrush current | 15 A (300 ms) |
| Min. switching current | 10 mA (At 5 V) |
| Interrupting rating (ohmic load) max. | 190 W (at 24 V DC) |
| | 85 W (at 48 V DC) |
| | 60 W (at 60 V DC) |
| | 44 W (at 110 V DC) |
| | 60 W (at 220 V DC) |
| | 2000 VA (for 250 V AC) |
| Switching capacity | 2 A (at 24 V, DC13) |
| | 0.2 A (at 110 V, DC13) |
| | 0.2 A (at 250 V, DC13) |
| | 2 A (at 24 V, AC15) |
| | 2 A (at 120 V, AC15) |
| | 2 A (at 250 V, AC15) |

## Connection data

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

## Dimensions

Item dimensions

| | |
|---|---|
| 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 III |
| Ambient temperature (operation) | -40 °C ... 85 °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

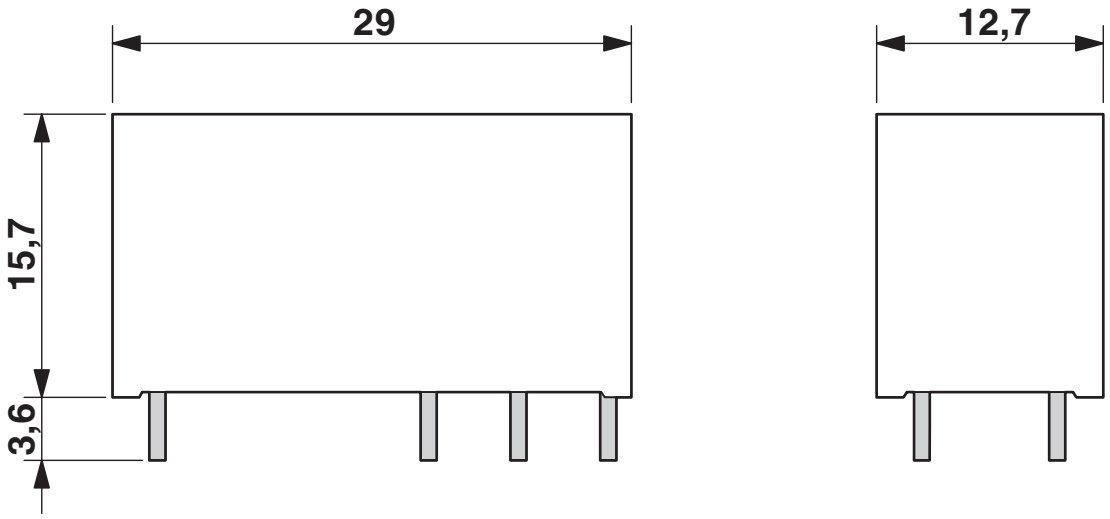
| | |
|---|---|
| Standards/regulations | IEC 60664 |
| | EN 50178 |
| | EN 61810-1 |

## Mounting

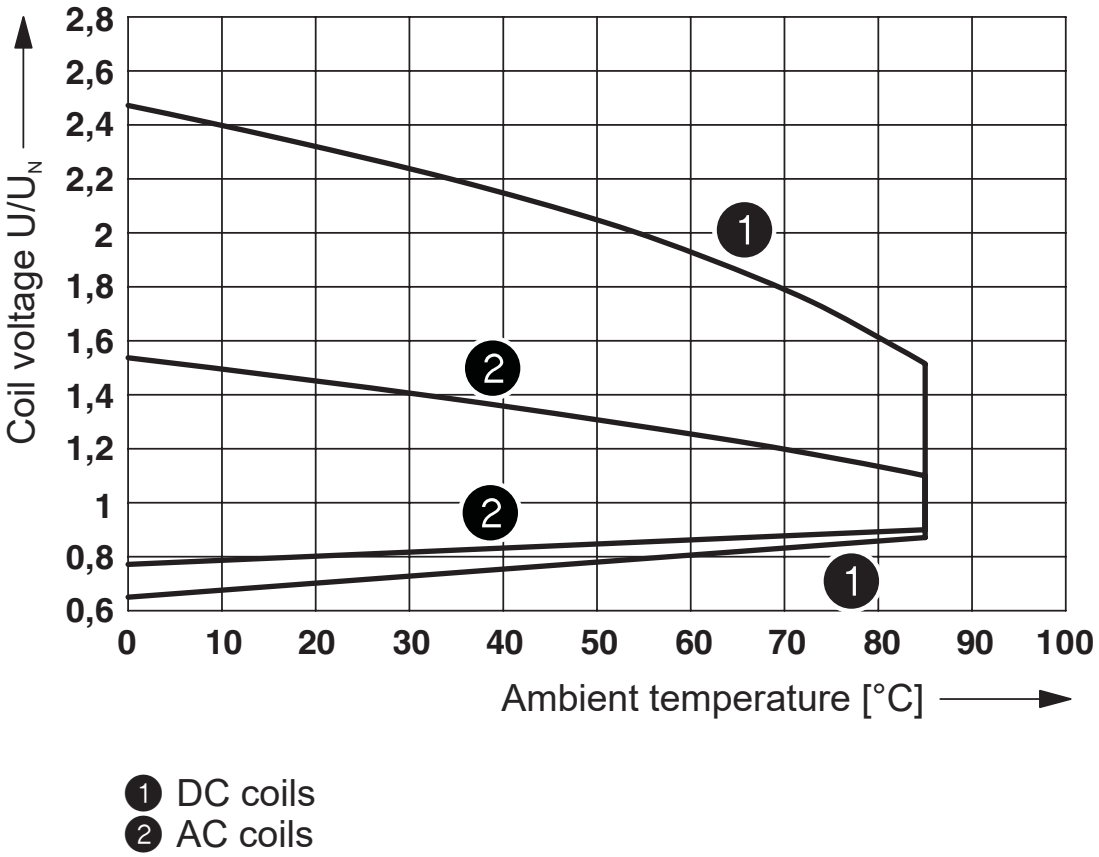
| | |
|---|---|
| Assembly note | Can be aligned without spacing (> 70 °C ≥ 2.5 mm) |
| Mounting position | any |

## Drawings

Dimensional drawing



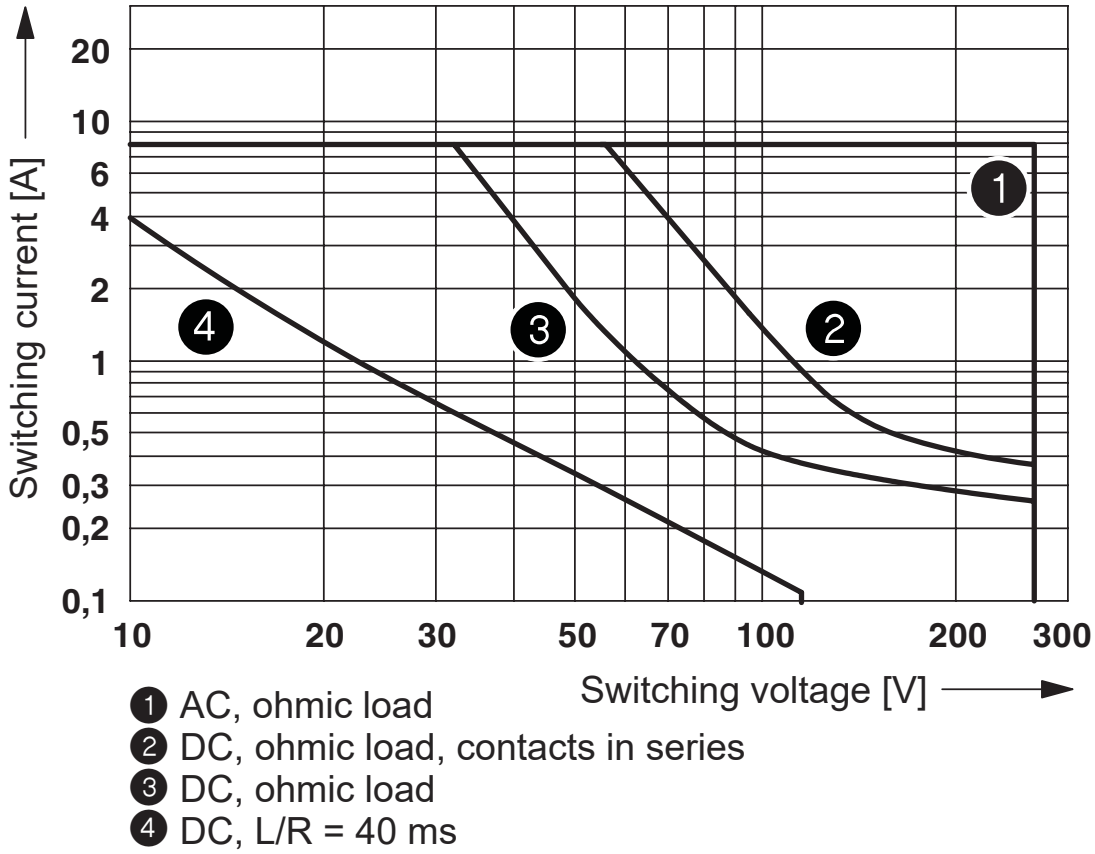

Diagram




1 DC coils
2 AC coils

Operating voltage range

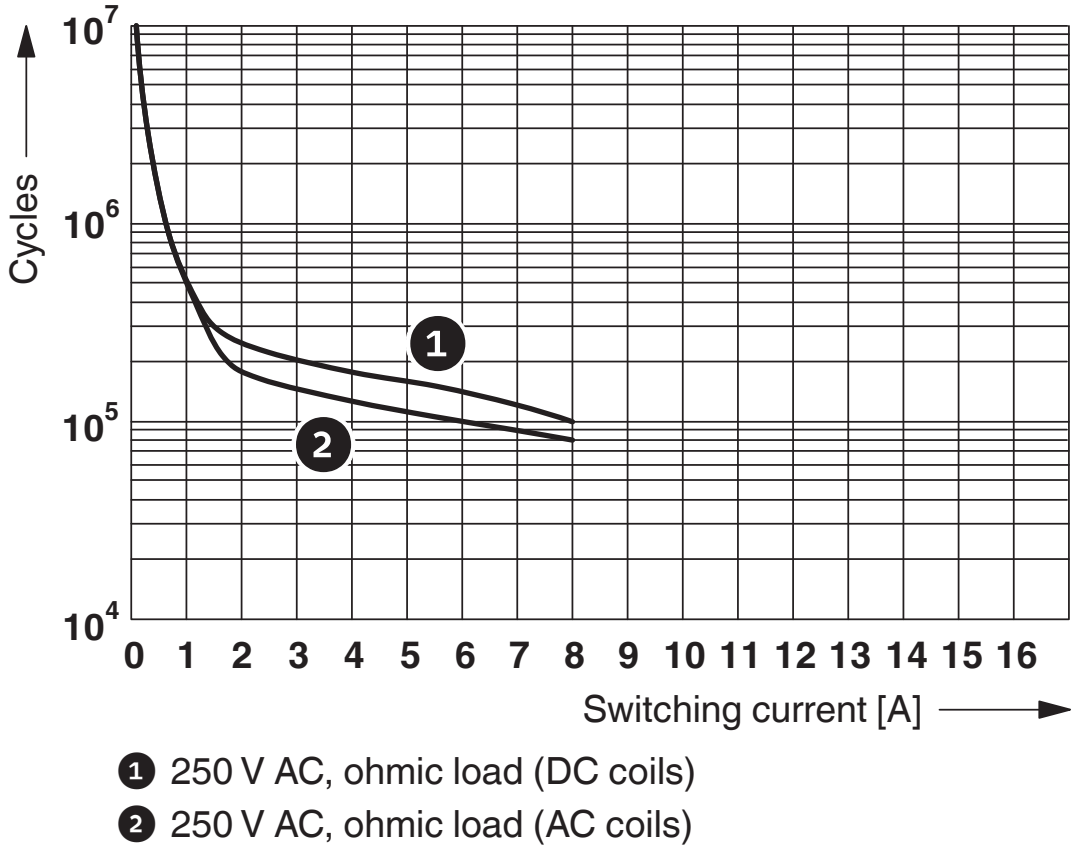
Diagram




1 AC, ohmic load
2 DC, ohmic load, contacts in series
3 DC, ohmic load
4 DC, L/R = 40 ms

Interrupting rating

Diagram

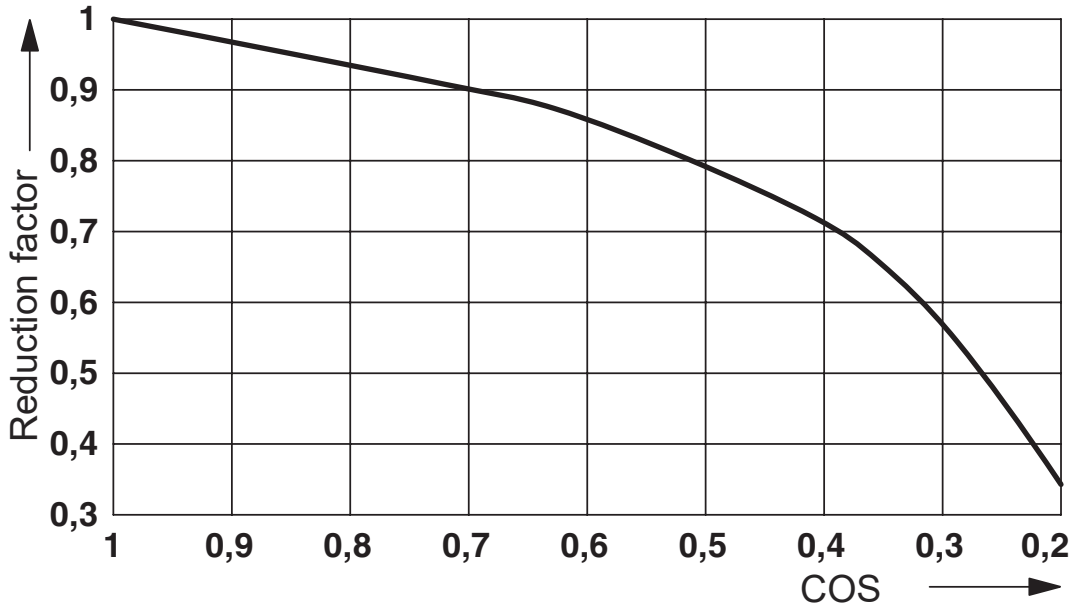



1 250 V AC, ohmic load (DC coils)

2 250 V AC, ohmic load (AC coils)

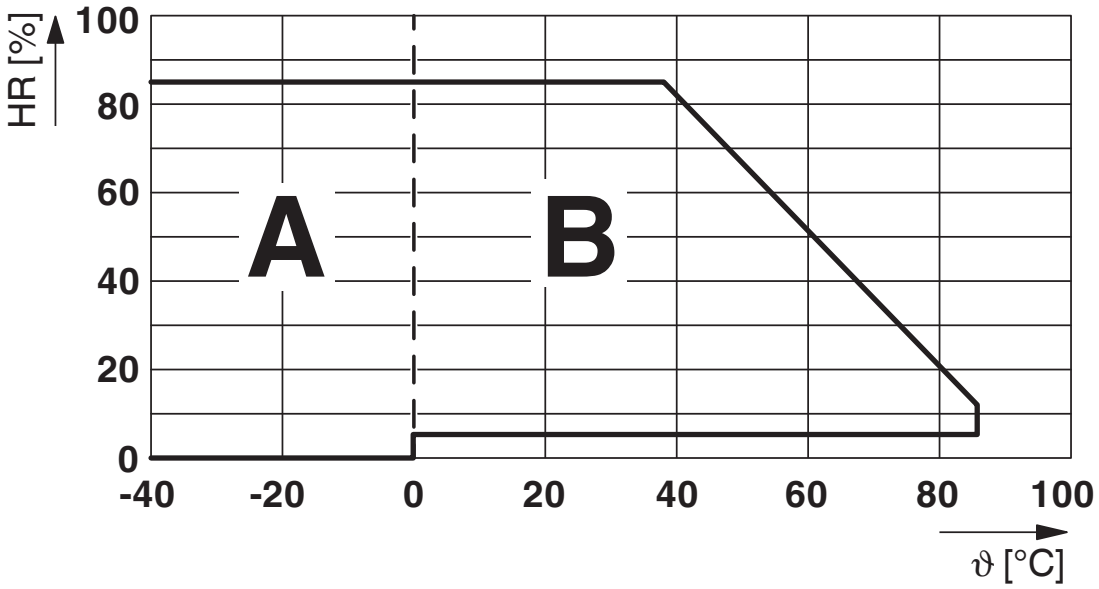
Electrical service life

Diagram




Service life reduction factor with various cos phi

Diagram

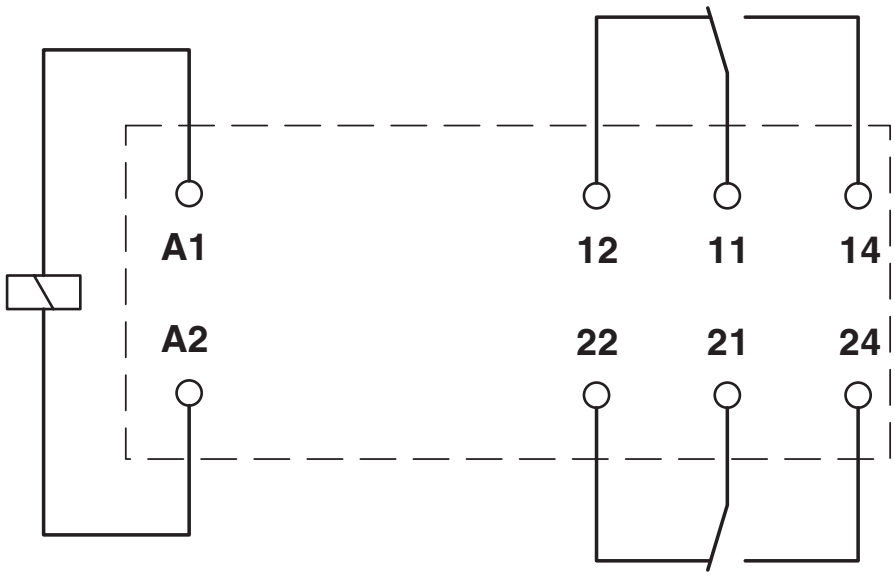



Permissible humidity for operation and storage.
The maximum permissible ambient temperature as specified in the data sheet must be observed.

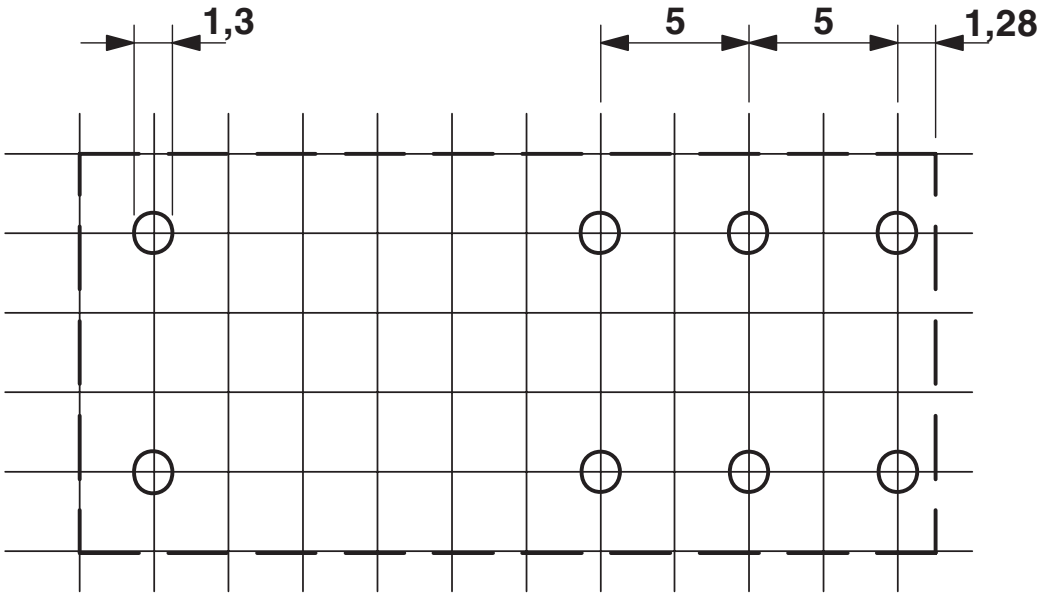
Area A: Ice buildup at ambient temperatures ≤ 0°C must be prevented
Area B: Condensation at ambient temperatures > 0°C must be prevented

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



Drilling plan/solder pad geometry




a = pitch division 2.5 mm

## Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/2961299

**cUL Recognized**
Approval ID: FILE E 228652

**UL Recognized**
Approval ID: FILE E 228652

**UL Recognized**
Approval ID: FILE E 228652

**VDE Zeichengenehmigung**
Approval ID: 40048281

**VDE Zeichengenehmigung**
Approval ID: 40007758

**cUL Recognized**
Approval ID: FILE E 228652

**cULus Recognized**
Approval ID: E172140

## 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, 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% |

EF3.1 Climate Change

| | |
|---|---|
| CO2e kg | 0.171 kg CO2e |


Phoenix Contact 2026 © - 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