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# REL-MR-110DC/21-21/EX - Single relay

2908824

https://www.phoenixcontact.com/pc/products/2908824

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Plug-in miniature power relay, RT III sealed with power contacts, 2 changeover contacts, input voltage: 110 V DC, in connection with the corresponding PLC base approved in accordance with ATEX/IECEx (zone 2) and Ex zone class I, div. 2.

## Your advantages

- Switching current of up to 8 A
- RT III-proof (wash-proof)

## Commercial data

| | |
|---|---|
| Item number | 2908824 |
| Packing unit | 10 pc |
| Minimum order quantity | 10 pc |
| Note | Made to order (non-returnable) |
| Product key | DK693B |
| GTIN | 4055626345185 |
| Weight per piece (including packing) | 15.9 g |
| Weight per piece (excluding packing) | 15.9 g |
| Customs tariff number | 85364900 |
| Country of origin | AT |

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## 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 | 08.11.2024 |

### Electrical properties

| | |
|---|---|
| Service life electrical | see diagram |
| Maximum power dissipation for nominal condition | 0.45 W |
| Test voltage (Winding/contact) | 5 kV AC (50 Hz, 1 min., winding/contact) |
| Test voltage (Contact/contact) | 2.5 kV AC (50 Hz, 1 min., contact/contact) |

### Input data

Coil side

| | |
|---|---|
| Nominal input voltage $U_N$ | 110 V DC |
| Input voltage range | 71.5 V DC ... 272.8 V DC |
| Drive and function | monostable |
| Drive (polarity) | non-polarized |
| Typical input current at $U_N$ | 4.1 mA |
| Typical response time | 7 ms |
| Typical release time | 3 ms |
| Coil resistance | 26600 Ω ±15 % (at 20 °C) |

### 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 | 5 V (at 10 mA) |
| Limiting continuous current | 8 A |
| Maximum inrush current | 25 A (20 ms) |
| Min. switching current | 10 mA (At 5 V) |
| | 190 W (at 24 V DC) |

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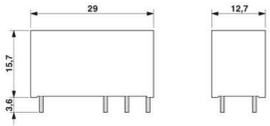
| | |
|---|---|
| Interrupting rating (ohmic load) max. | 85 W (at 48 V DC) |
| | 60 W (at 60 V DC) |
| | 44 W (at 110 V DC) |
| | 60 W (at 220 V DC) |
| | 2000 VA (for 250 V AC) |
| Switching capacity | 2 A (at 24 V, DC13) |
| | 0.2 A (at 250 V, DC13) |
| | 3 A (at 24 V, AC15) |
| | 3 A (at 120 V, AC15) |
| | 3 A (at 250 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 | orange (RAL 2003) |

## 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

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

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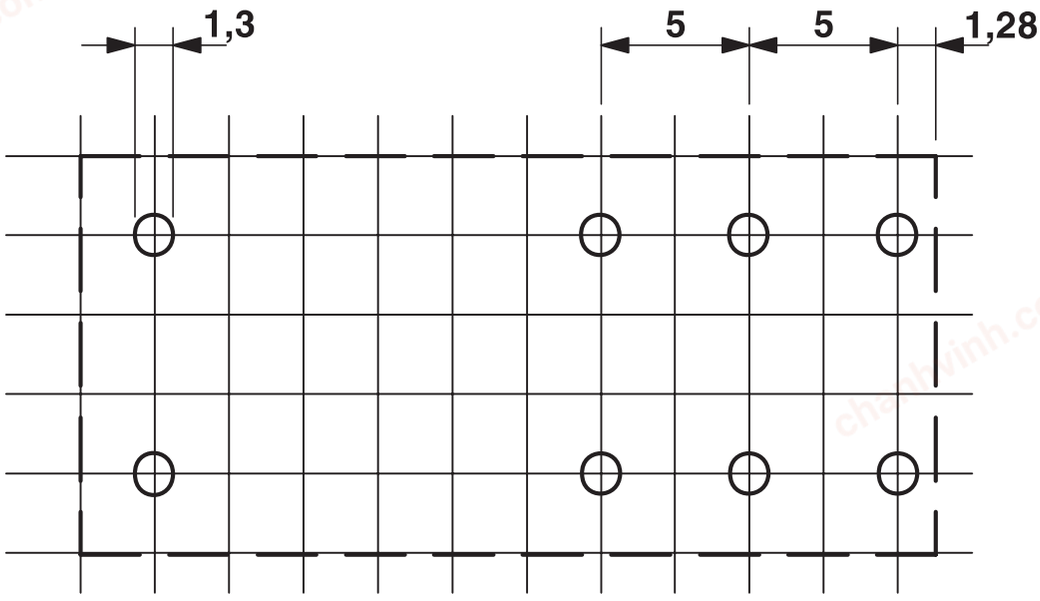
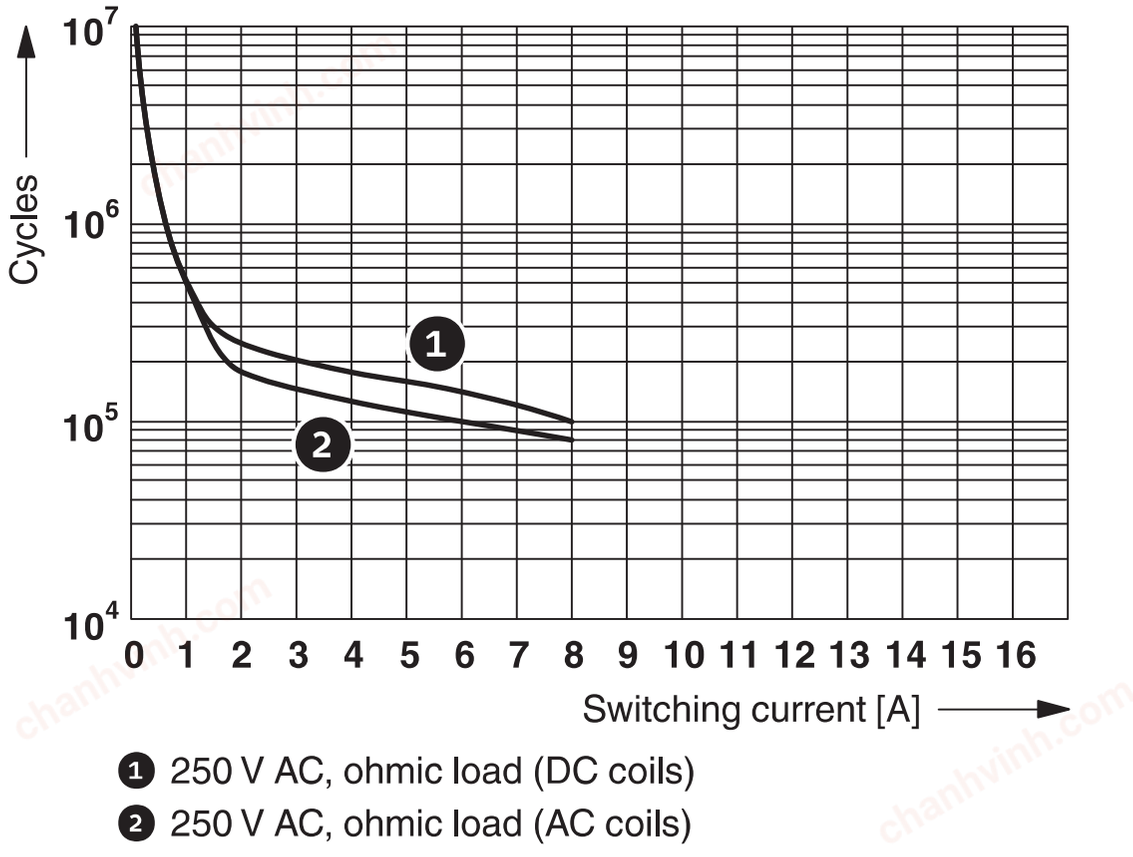
## Drawings

Drilling plan/solder pad geometry




a = pitch division 2.5 mm

Diagram




1 250 V AC, ohmic load (DC coils)

2 250 V AC, ohmic load (AC coils)

Electrical service life

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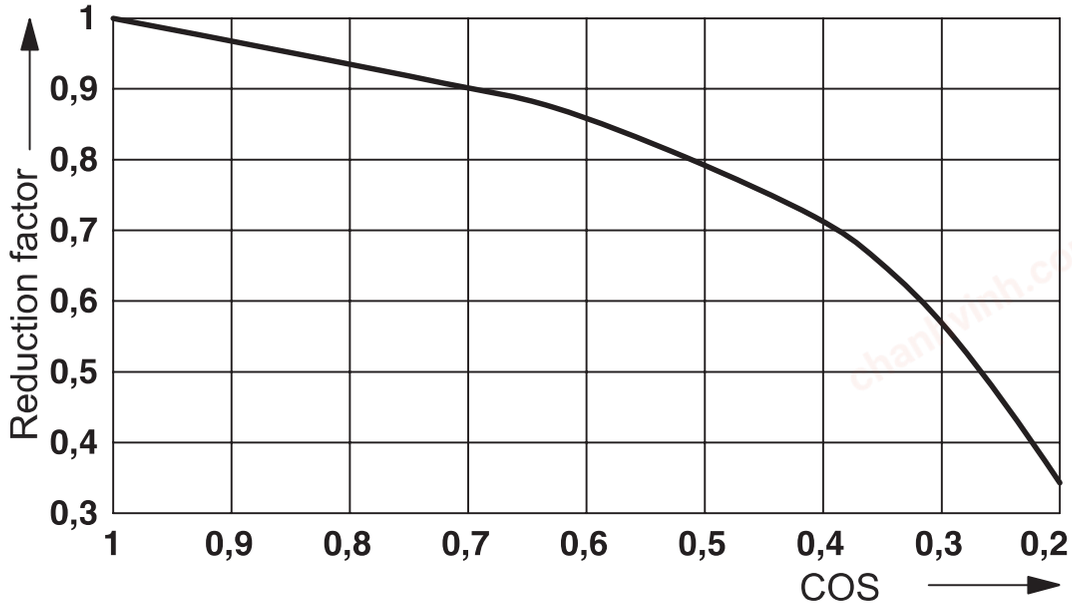
Diagram




Service life reduction factor with various cos phi

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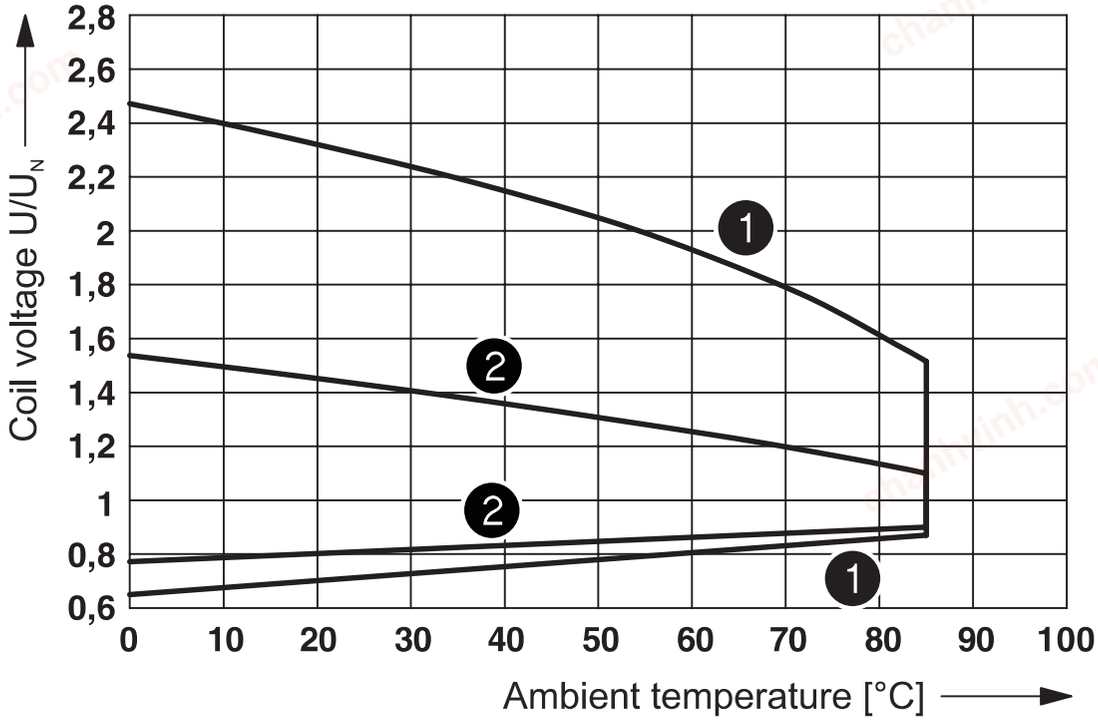
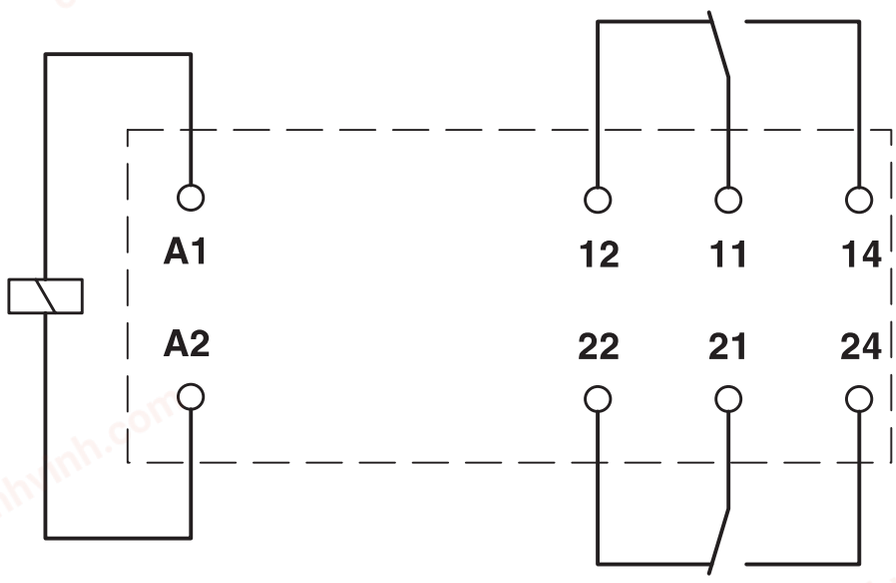
Diagram




1 DC coils
2 AC coils

Operating voltage range

Circuit diagram



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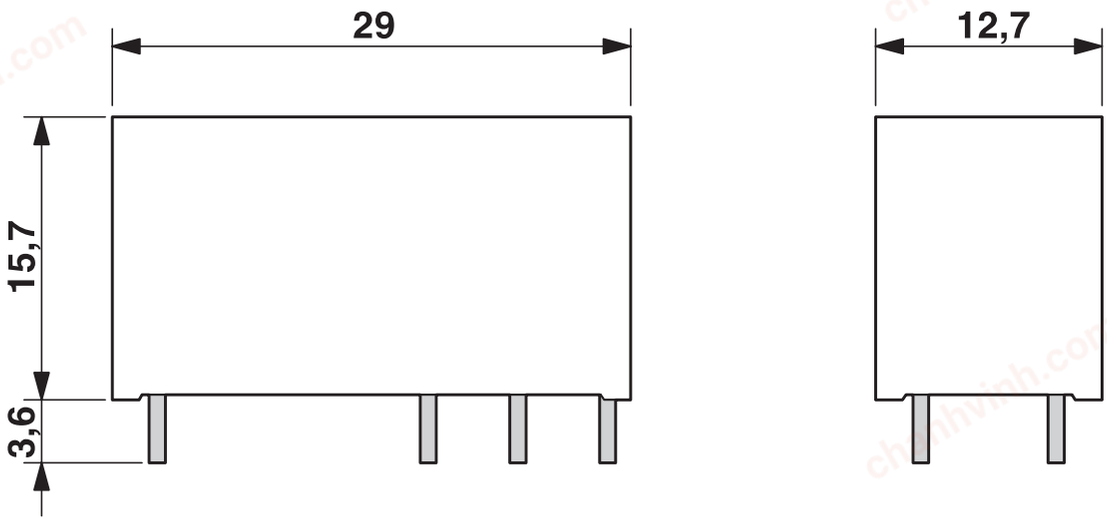
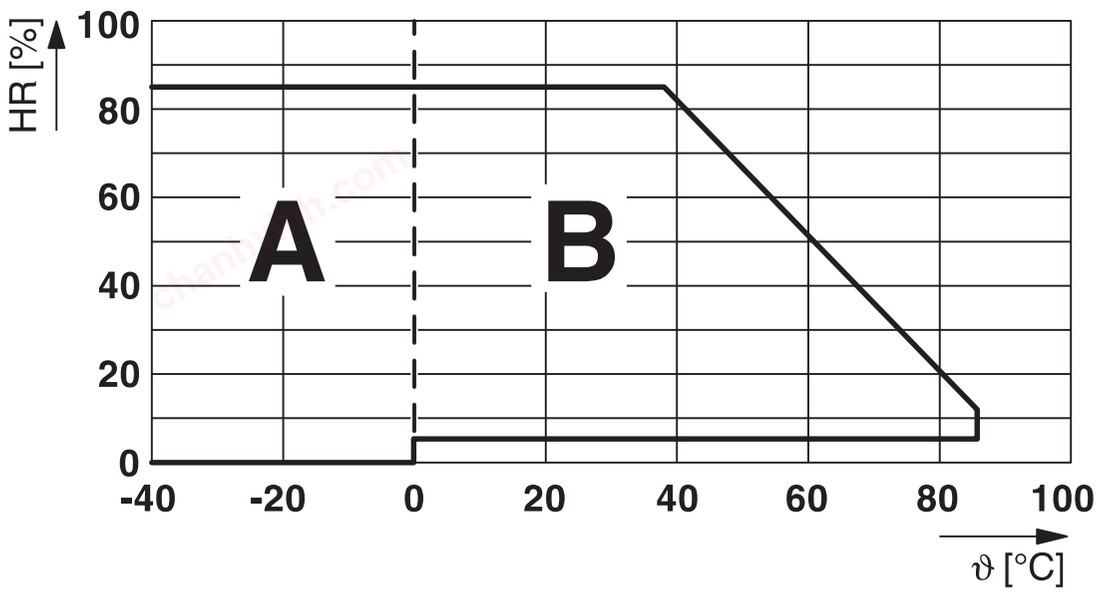
Dimensional drawing




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.

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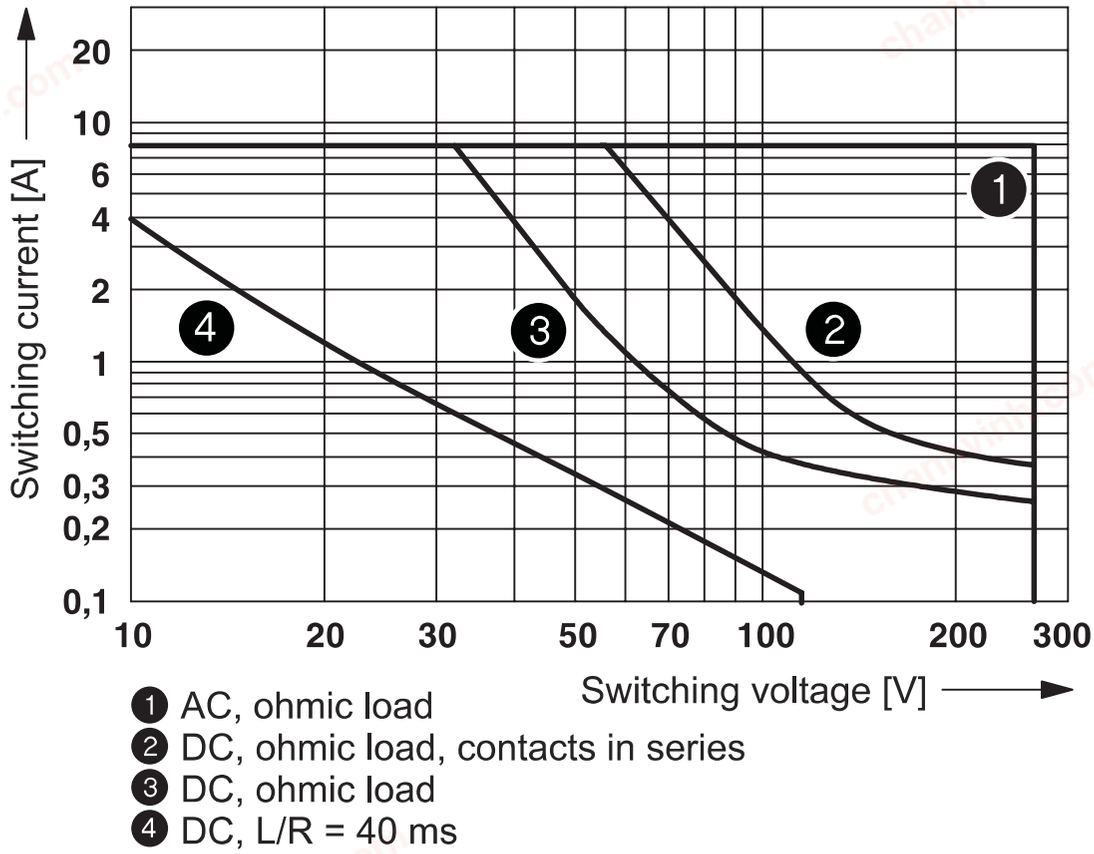
Diagram




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

Interrupting rating

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## Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/pc/products/2908824

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

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

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

**VDE approval of drawings**
Approval ID: 40007758

**cULus Recognized**

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## Classifications

### ECLASS

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