# PLC-RPT-24DC/21/EX - Relay module

2909528

https://www.phoenixcontact.com/us/products/2909528

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PLC-INTERFACE, consisting of DIN-rail-mountable basic terminal block in 6.2 mm with Push-in connection and plug-in miniature relay with 6 A power contact, 1 changeover contact, 24 V DC input voltage. Approved in accordance with ATEX/IECEx (zone 2) and Ex zone Class I, Div. 2.

## Commercial data

| | |
|---|---|
| Item number | 2909528 |
| Packing unit | 10 pc |
| Minimum order quantity | 10 pc |
| Sales key | C462 |
| Product key | DK62AK |
| GTIN | 4055626363653 |
| Weight per piece (including packing) | 35.08 g |
| Weight per piece (excluding packing) | 34 g |
| Customs tariff number | 85364190 |
| Country of origin | DE |

# Technical data

## Notes

Utilization restriction

| | |
|---|---|
| EMC note | EMC: class A product, see manufacturer's declaration in the download area |

## Product properties

| | |
|---|---|
| Product type | Relay Module |
| Product family | PLC-INTERFACE |
| Application | Class I, Division 2 |
| | potentially explosive areas |
| Operating mode | 100% operating factor |
| Mechanical service life | 2x $10^7$ cycles |

Insulation characteristics: Standards/regulations

| | |
|---|---|
| Overvoltage category | III |
| Pollution degree | 3 |

Data management status

| | |
|---|---|
| Date of last data management | 13.10.2026 |

## Electrical properties

| | |
|---|---|
| Maximum power dissipation for nominal condition | 0.22 W |
| Test voltage (Winding/contact) | 4 kV AC (50 Hz, 1 min., winding/contact) |

## Input data

Coil side

| | |
|---|---|
| Nominal input voltage $U_N$ | 24 V DC |
| Input voltage range | 18.5 V DC ... 33.6 V DC (20 °C) |
| Nominal voltage (plugged-in electromechanical relay) | 24 V DC |
| Drive and function | monostable |
| Drive (polarity) | polarized |
| Typical input current at $U_N$ | 9 mA |
| Typical response time | 5 ms |
| Typical release time | 8 ms |
| Protective circuit | Reverse polarity protection; Polarity protection diode |
| | Surge protection; Freewheeling diode |
| Operating voltage display | Yellow LED |

## Output data

Switching

| | |
|---|---|
| Contact switching type | 1 changeover contact |

| | |
|---|---|
| Type of switch contact | Single contact |
| Contact connection type | Power contact |
| Contact material | AgSnO |
| Maximum switching voltage | 250 V AC/DC (The divider plate PLC-ATP should be installed for voltages larger than 250 V (L1, L2, L3) between identical terminal blocks in adjacent modules. Potential bridging is then carried out with FBST 8-PLC... or ...FBST 500...) |
| Minimum switching voltage | 5 V AC/DC (100 mA) |
| Limiting continuous current | 6 A (Derating) |
| Maximum inrush current | 10 A (4 s) |
| Min. switching current | 10 mA (12 V) |
| Interrupting rating (ohmic load) max. | 140 W (24 V DC) |
| | 20 W (48 V DC) |
| | 18 W (60 V DC) |
| | 23 W (110 V DC) |
| | 40 W (220 V DC) |
| | 1500 VA (250 V AC) |
| Switching capacity | 2 A (24 V (DC13)) |
| | 0.2 A (110 V (DC13)) |
| | 0.1 A (220 V (DC13)) |
| | 3 A (24 V (AC15)) |
| | 3 A (120 V (AC15)) |
| | 3 A (230 V (AC15)) |

## Connection data

| | |
|---|---|
| Connection method | Push-in connection |
| Stripping length | 10 mm |
| Conductor cross-section rigid | 0.14 mm² ... 2.5 mm² |
| Conductor cross-section flexible | 0.14 mm² ... 2.5 mm² |
| | 0.2 mm² ... 2.5 mm² (Single ferrule) |
| | 2x 0.5 mm² ... 1 mm² (TWIN ferrule) |
| Conductor cross-section AWG | 26 ... 14 |

## Dimensions

Item dimensions

| | |
|---|---|
| Width | 6.2 mm |
| Height | 80 mm |
| Depth | 94 mm |

## Material specifications

| | |
|---|---|
| Color | gray (RAL 7042) |
| Flammability rating according to UL 94 (Housing) | V0 (Housing) |

## Environmental and real-life conditions

Ambient conditions

| | |
|---|---|
| Degree of protection (Relay) | RT III (Relay) |
| Degree of protection (Relay base) | IP20 (Relay base) |
| Ambient temperature (operation) | -40 °C ... 70 °C |
| Ambient temperature (storage/transport) | -40 °C ... 85 °C |
| Altitude | ≤ 2000 m |

## Approvals

CE

| | |
|---|---|
| Certificate | CE-compliant |

ATEX

| | |
|---|---|
| Identification | ⟨Ex⟩ II 3G Ex ec nC IIC T4 Gc |
| Certificate | IBExU16ATEXB015 X |

IECEx

| | |
|---|---|
| Identification | Ex ec nC IIC T4 Gc |
| Certificate | IECEx IBE 16.0029X |

CCC / China-Ex

| | |
|---|---|
| Identification | Ex ec nC IIC T4 Gc |
| Certificate | 2021122304114118 |

INMETRO

| | |
|---|---|
| Identification | Ex ec nC IIC T4 Gc |
| Certificate | DNV 25.0067 X |

UL, USA/Canada

| | |
|---|---|
| Identification | Class I, Zone 2, AEx ec nC IIC Gc T4 |
| | Class I, Zone 2, Ex ec nC IIC Gc T4 X |

Shipbuilding approval

| | |
|---|---|
| Certificate | TAE0000196 |

Corrosive gas test

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

Shipbuilding data

| | |
|---|---|
| Temperature | D |
| Humidity | A |
| Vibration | B/C |
| EMC | B |
| Enclosure | Required protection according to the Rules shall be provided upon installation on board |

## EMC data

| | |
|---|---|
| Electromagnetic compatibility | Conformance with EMC directive |
| Low Voltage Directive | Conformance with Low Voltage Directive |

## Standards and regulations

Standards/regulations

| | |
|---|---|
| Standards/regulations | IEC 60664 |
| | IEC 60947-5-1 |
| | IEC/EN 60079-0 |
| | IEC/EN 60079-7 |
| | IEC/EN 60079-15 |

GB Standard

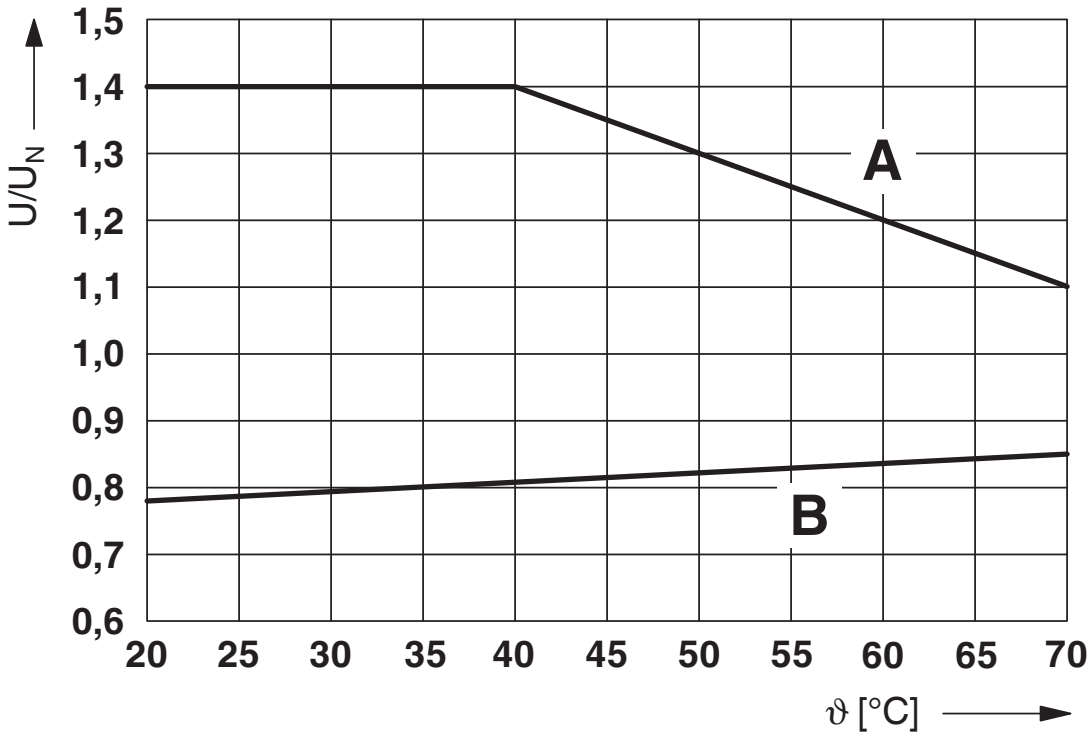
| | |
|---|---|
| Standards/regulations | GB/T 3836.1 |
| | GB/T 3836.3 |
| | GB/T 3836.8 |

## Mounting

| | |
|---|---|
| Mounting type | DIN rail mounting |
| Assembly note | in rows with zero spacing |
| Mounting position | any |

## Drawings

Diagram



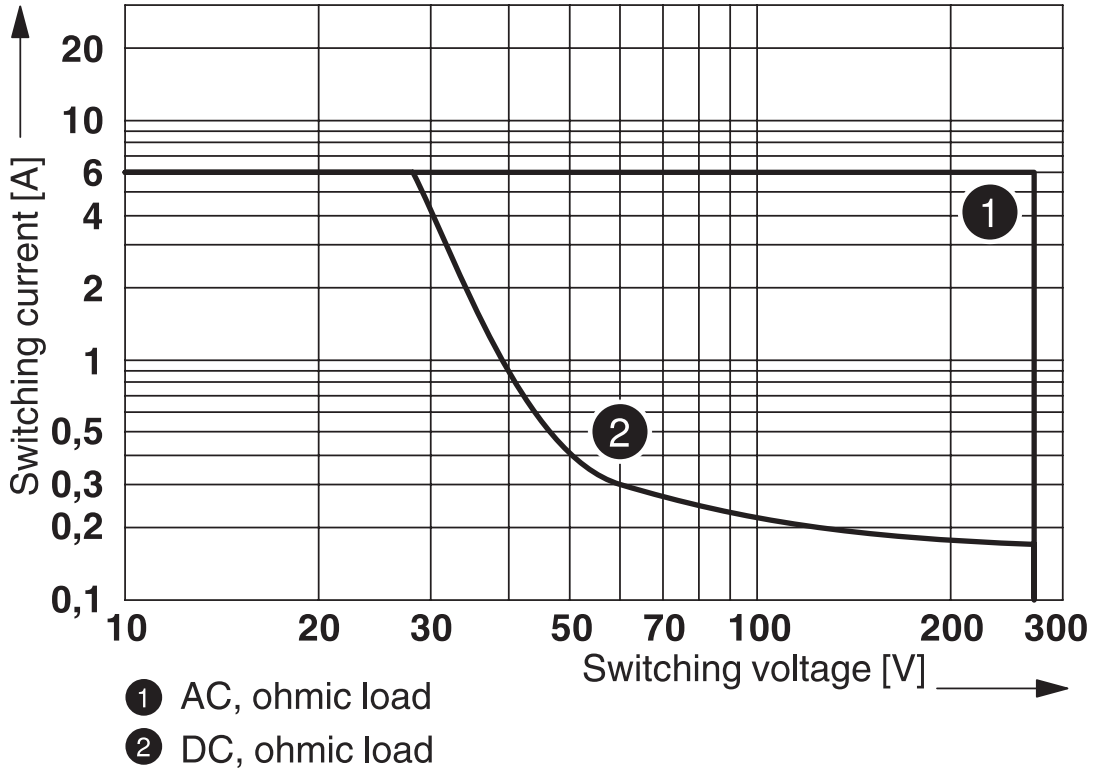

### Curve A

Maximum permissible continuous voltage $U_{max}$ with limiting continuous current on the contact side (see relevant technical data)

### Curve B

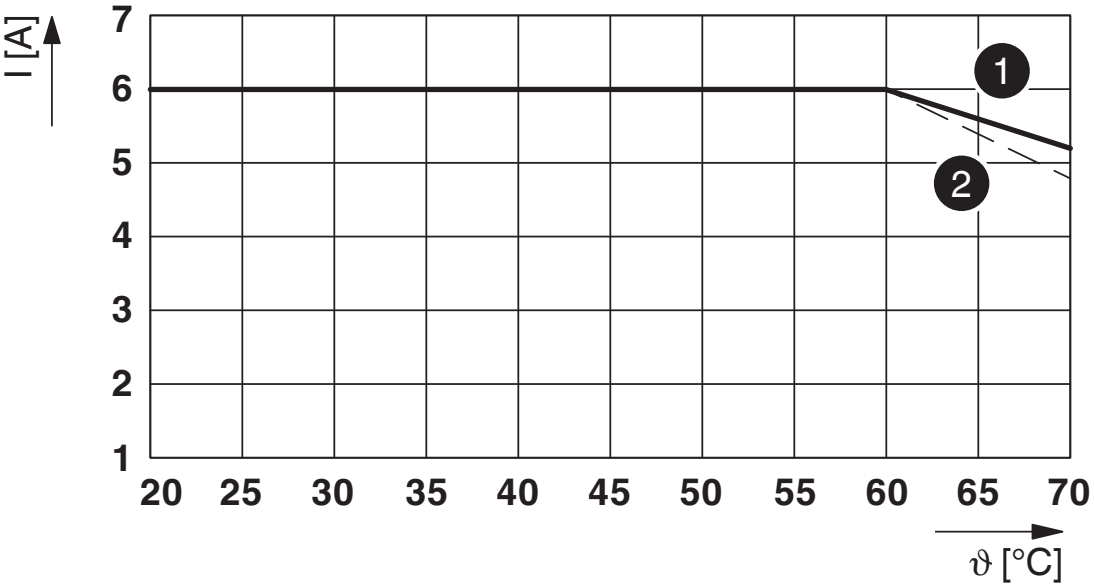
Minimum permissible operate voltage $U_{op}$ after pre-excitation (see relevant technical data)

Diagram




Interrupting rating

Diagram

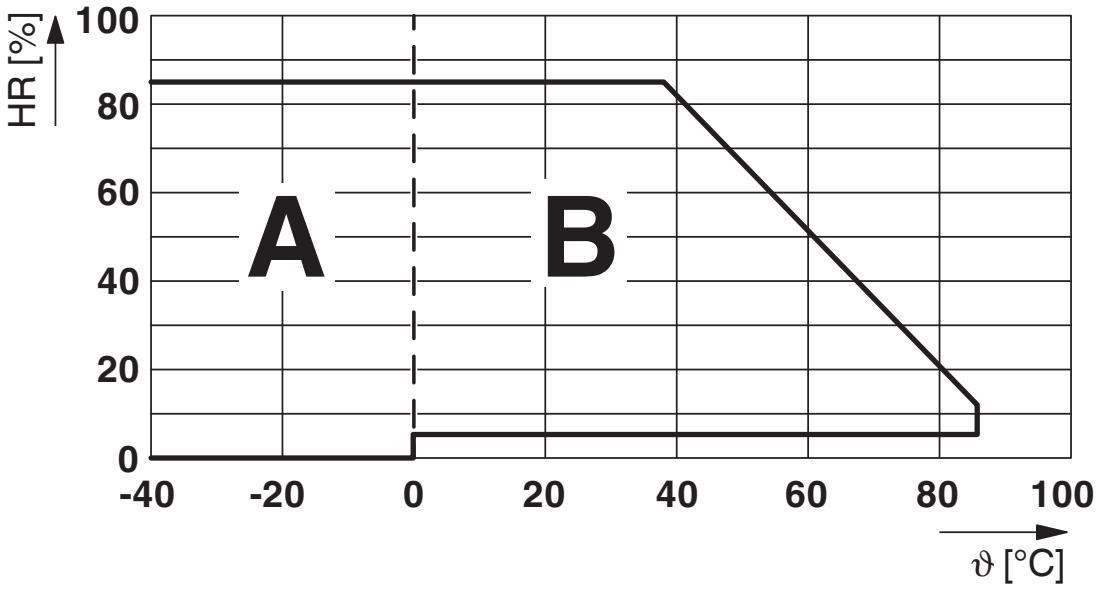



## Limiting continuous current per contact for 0.85 ... 1.1 $U_N$ (contact-side)

(1) Limiting continuous current for horizontal installation position without clearance

(2) Limiting continuous current for vertical installation position without clearance

Diagram

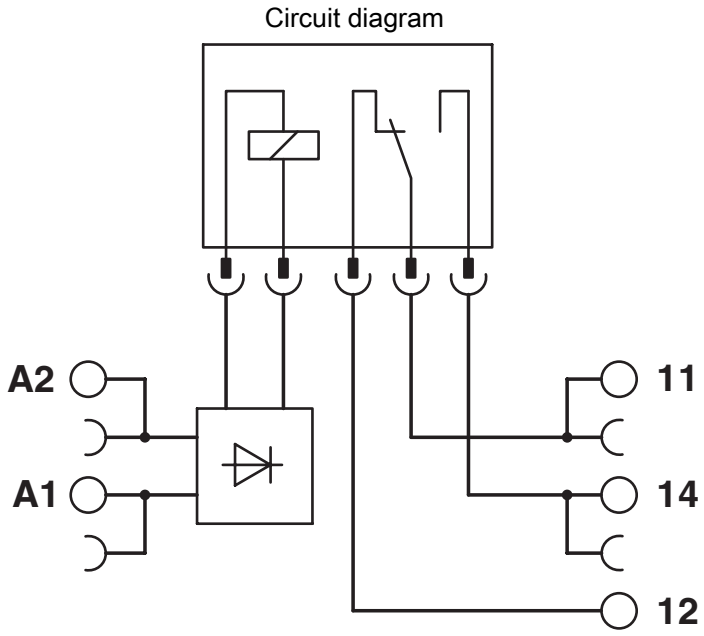



Permissible humidity for operation and storage.
The maximum permissible ambient temperature as specified in the data sheet must be observed.

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



## Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/2909528

**cULus Listed**
Approval ID: E140324

**cULus Listed**
Approval ID: E140324

**EAC Ex**
Approval ID: RU C-DE.AB72.B.02328

**IECEx**
Approval ID: IECEx IBE 16.0029X

**ATEX**
Approval ID: 16ATEXB015X

**cULus Listed**
Approval ID: E199827

**KC-s**
Approval ID: 18-KA4BO-0620X

**CCC**
Approval ID: 2021122304114118

**IECEx**
Approval ID: IECEx IBE 16.0029X

**ATEX**
Approval ID: IBExU16ATEXB015X

## 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 |
| Exemption | 7(a), 7(c)-I |

China RoHS

| | |
|---|---|
| Environment friendly use period (EFUP) | EFUP-50 |
| | An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required. |

EU REACH SVHC

| | |
|---|---|
| REACH candidate substance (CAS No.) | Hexahydromethylphthalic anhydride(CAS: n/a) |
| | Lead(CAS: 7439-92-1) |
| SCIP | a689367d-0e5f-4cea-a74d-cff01bf648ca |

EF3.1 Climate Change

| | |
|---|---|
| CO2e kg | 0.556 kg CO2e |

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