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

2909514

https://www.phoenixcontact.com/us/products/2909514

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PLC-INTERFACE, consisting of DIN-rail-mountable basic terminal block in 14 mm with Push-in connection and plug-in relay with power contact, 2 changeover contacts, 24 V DC input voltage. Approved according to ATEX/IECEx (Zone 2) and Ex Zone Class I, Div. 2.

## Commercial data

| | |
|---|---|
| Item number | 2909514 |
| Packing unit | 10 pc |
| Minimum order quantity | 10 pc |
| Sales key | C462 |
| Product key | DK62BK |
| GTIN | 4055626363172 |
| Weight per piece (including packing) | 69.21 g |
| Weight per piece (excluding packing) | 69.21 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 | 3x $10^7$ cycles |

Insulation characteristics: Standards/regulations

| | |
|---|---|
| Insulation | Safe isolation, reinforced insulation |
| Overvoltage category | III |
| Pollution degree | 3 |

Data management status

| | |
|---|---|
| Date of last data management | 12.05.2026 |

## Electrical properties

| | |
|---|---|
| Maximum power dissipation for nominal condition | 0.43 W |
| Test voltage (Winding/contact) | 4 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) |

Standards/regulations

| | |
|---|---|
| Rated insulation voltage | 250 V AC |
| Rated surge voltage | 6 kV |

## Input data

Coil side

| | |
|---|---|
| Nominal input voltage $U_N$ | 24 V DC |
| Input voltage range | 20.2 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 $U_N$ | 18 mA |
| Typical response time | 8 ms |
| Typical release time | 10 ms |
| Protective circuit | Reverse polarity protection; Polarity protection diode |

| | |
|---|---|
| | Surge protection; Freewheeling diode |
| Operating voltage display | Yellow LED |

## 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 (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 (10 mA) |
| Limiting continuous current | 2x 6 A (Derating) |
| Maximum inrush current | 15 A (300 ms) |
| Min. switching current | 10 mA (5 V) |
| Interrupting rating (ohmic load) max. | 140 W (24 V DC) |
| | 85 W (48 V DC) |
| | 60 W (60 V DC) |
| | 44 W (110 V DC) |
| | 60 W (220 V DC) |
| | 1500 VA (250 V AC) |
| Switching capacity | 2 A (24 V (DC13)) |
| | 0.2 A (250 V (DC13)) |
| | 3 A (24 V (AC15)) |
| | 3 A (120 V (AC15)) |
| | 3 A (250 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 | 14 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 | Ⓔx 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

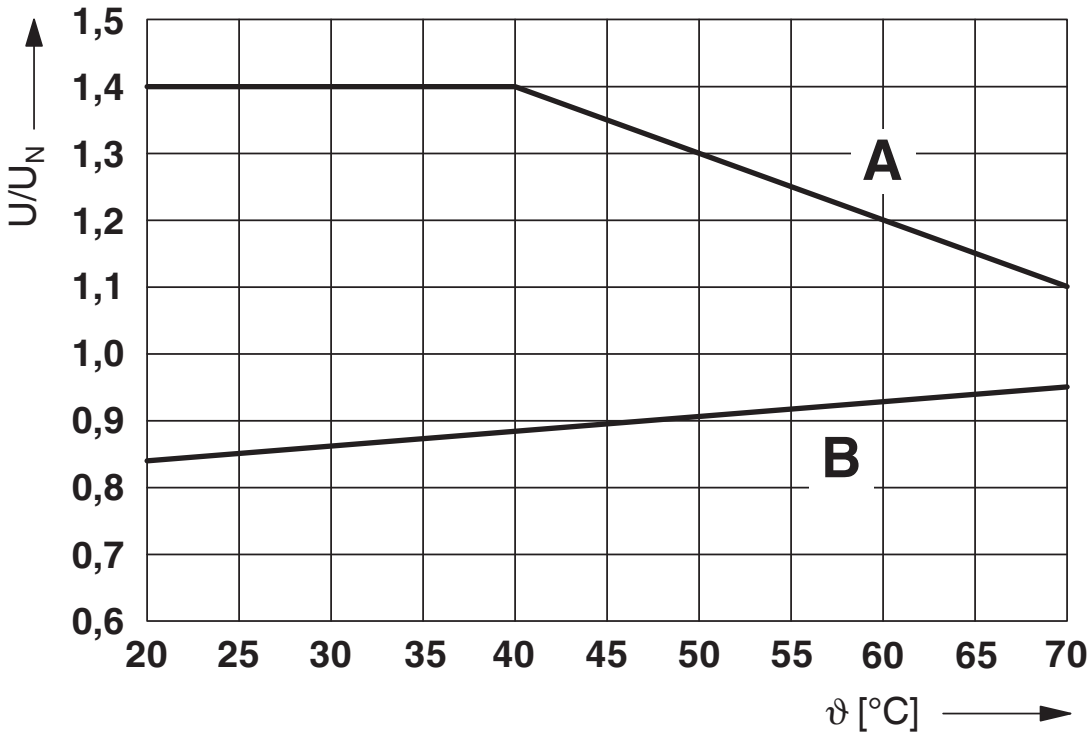
| | |
|---|---|
| Standards/regulations | GB/T 3836.1 |
| | GB/T 3836.3 |
| | GB/T 3836.8 |

## Mounting

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

## Drawings

Diagram



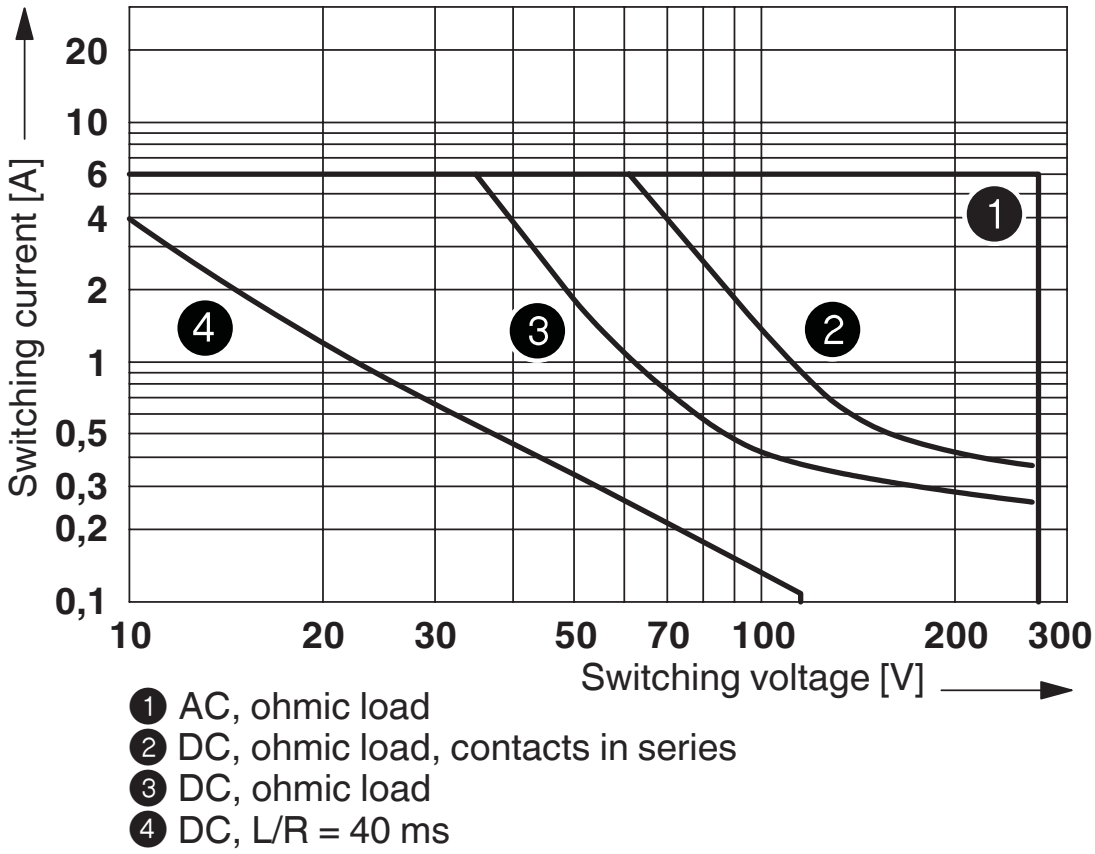

### Curve A

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)

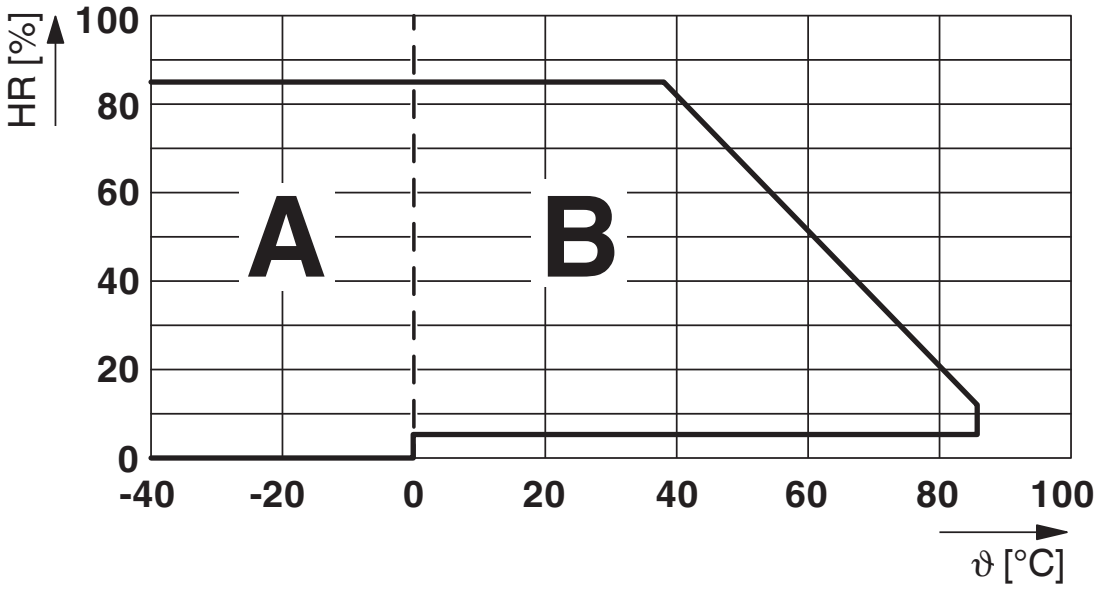
Diagram




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

Interrupting rating

Diagram

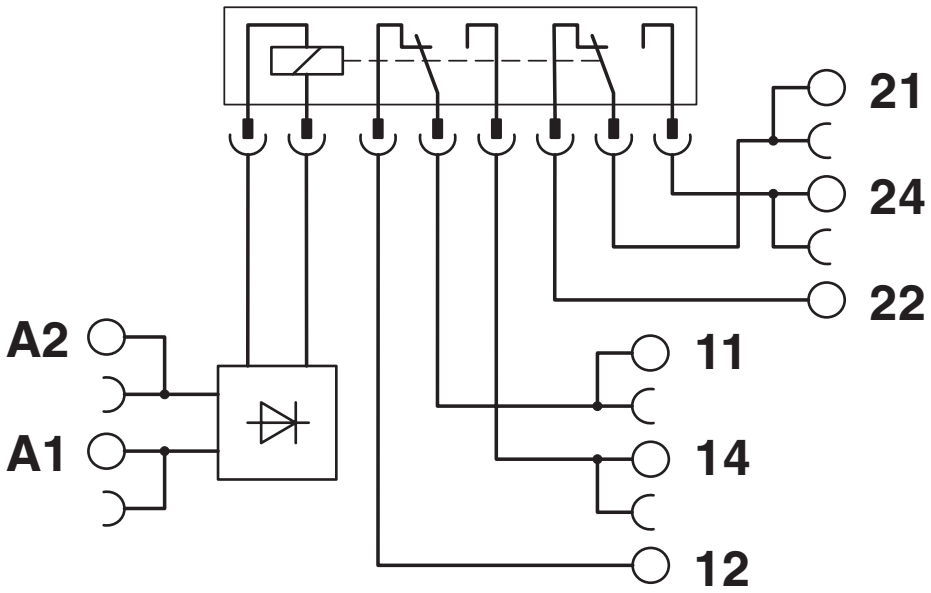



Permissible humidity for operation and storage.
The maximum permissible ambient temperature as specified in the data sheet must be observed.

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/2909514

**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 | b0637d75-cd8f-4708-9869-4fc631b101fe |

EF3.1 Climate Change

| | |
|---|---|
| CO2e kg | 1.008 kg CO2e |

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