

# PLC-RPT-120UC/21HC/EX - Relay Module



2909533

<https://www.phoenixcontact.com/in/products/2909533>

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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 10 A power contact, 1 changeover contact, 120 V AC/110 V DC input voltage. Approved according to ATEX/IECEx (Zone 2) and Ex Zone Class I, Div. 2.

## Commercial data

|                                      |                     |
|--------------------------------------|---------------------|
| Item number                          | 2909533             |
| Packing unit                         | 10 pc               |
| Minimum order quantity               | 10 pc               |
| Sales key                            | CK6                 |
| Product key                          | CK623A              |
| Catalog page                         | Page 387 (C-5-2019) |
| GTIN                                 | 4055626363707       |
| Weight per piece (including packing) | 74.78 g             |
| Weight per piece (excluding packing) | 66.48 g             |
| Customs tariff number                | 85364900            |
| Country of origin                    | DE                  |

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## 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             | High continuous currents<br>potentially explosive areas |
| Operating mode          | 100% operating factor                                   |
| Mechanical service life | 3x 10 <sup>7</sup> cycles                               |

#### Insulation characteristics

|            |                                       |
|------------|---------------------------------------|
| Insulation | Safe isolation, reinforced insulation |
|------------|---------------------------------------|

#### Insulation characteristics: Standards/regulations

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

### Electrical properties

|   |  |
|---|--|
| Maximum power dissipation for nominal condition | 0.54 W                                   |
| Test voltage (Winding/contact)                  | 4 kV AC (50 Hz, 1 min., winding/contact) |

#### Standards/regulations

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

### Input data

#### Coil side

|                                |   |
|--------------------------------|---|
| Nominal input voltage $U_N$    | 120 V AC<br>110 V DC  |
| Input voltage range            | 102 V AC ... 168 V AC (20 °C)<br>85.8 V DC ... 154 V DC (20 °C) |
| Drive and function             | monostable  |
| Drive (polarity)               | polarized   |
| Typical input current at $U_N$ | 4.5 mA  |
| Typical response time          | 7 ms  |
| Typical release time           | 10 ms   |
| Protective circuit             | Bridge rectifier; Bridge rectifier                              |
| Operating voltage display      | Yellow LED  |

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## 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 (The separating 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                     | 12 V AC/DC (10 mA)  |
| Limiting continuous current                   | 10 A<br>6 A (value applies to connections 12. If connections 12 are bridged, the normal value applies.)   |
| Maximum inrush current                        | 30 A (300 ms)   |
| Min. switching current                        | 10 mA (12 V)  |
| Interrupting rating (ohmic load) max.         | 240 W (at 24 V DC)<br>58 W (at 48 V DC)<br>48 W (at 60 V DC)<br>50 W (at 110 V DC)<br>80 W (at 220 V DC)<br>2500 VA (for 250 V AC)  |
| Interrupting rating (ohmic load) max. bridged | 144 W (for 24 V DC. Value applies to connections 12. If connections 12 are bridged, the normal value applies.)<br>1500 VA (for 250 V AC. Value applies to connections 12. If connections 12 are bridged, the normal value applies.)           |
| Switching capacity                            | 2 A (at 24 V, DC13)<br>0.2 A (at 110 V, DC13)<br>0.2 A (at 250 V, DC13)<br>6 A (at 24 V, AC15)<br>6 A (at 120 V, AC15)<br>6 A (at 250 V, AC15)  |

## Connection data

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

## Dimensions

|        |       |
|--------|-------|
| Width  | 14 mm |
| Height | 80 mm |
| Depth  | 94 mm |

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## Material specifications

|  |                 |
|--|-----------------|
| Color                                  | gray (RAL 7042) |
| Flammability rating according to UL 94 | 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)         | -20 °C ... 60 °C (UL)<br>-40 °C ... 60 °C (ATEX / IECEx) |
| Ambient temperature (storage/transport) | -40 °C ... 85 °C   |

## Approvals

### CE

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

### ATEX

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

### IECEx

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

### UKCA Ex (UKEX)

|                |                             |
|----------------|-----------------------------|
| Identification | Ⓔ II 3 G Ex ec nC IIC T4 Gc |
| Certificate    | PxCIF21UKEX2909514X         |

### UL, USA

|                |                                   |
|----------------|-----------------------------------|
| Identification | Class I, Zone 2, AEx nA nC IIC T6 |
|----------------|-----------------------------------|

### UL, USA/Canada

|                |                                    |
|----------------|------------------------------------|
| Identification | Class I, Div. 2, Groups A, B, C, D |
|----------------|------------------------------------|

### UL, Canada

|                |                                       |
|----------------|---------------------------------------|
| Identification | Class I, Zone 2, Ex nA nC IIC Gc T6 X |
|----------------|---------------------------------------|

### Shipbuilding approval

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

### Corrosive gas test

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

### DNV GL data

|             |   |
|-------------|---|
| Temperature | D |
| Humidity    | A |

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

## EMC data

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

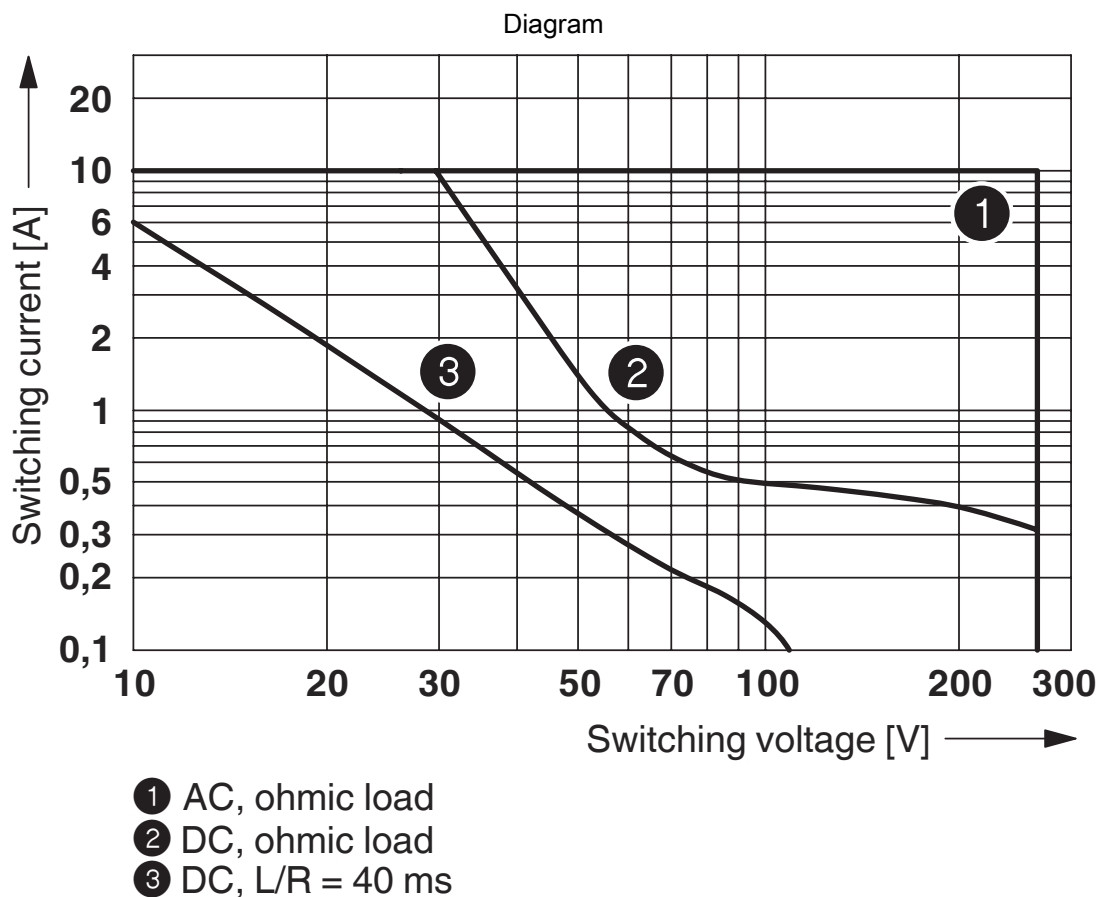
## Standards and regulations

|                       |                     |
|-----------------------|---------------------|
| Standards/regulations |                     |
| Standards/regulations | IEC 60664           |
|                       | EN 50178            |
|                       | EN 60079-0, -7, -15 |

## Mounting

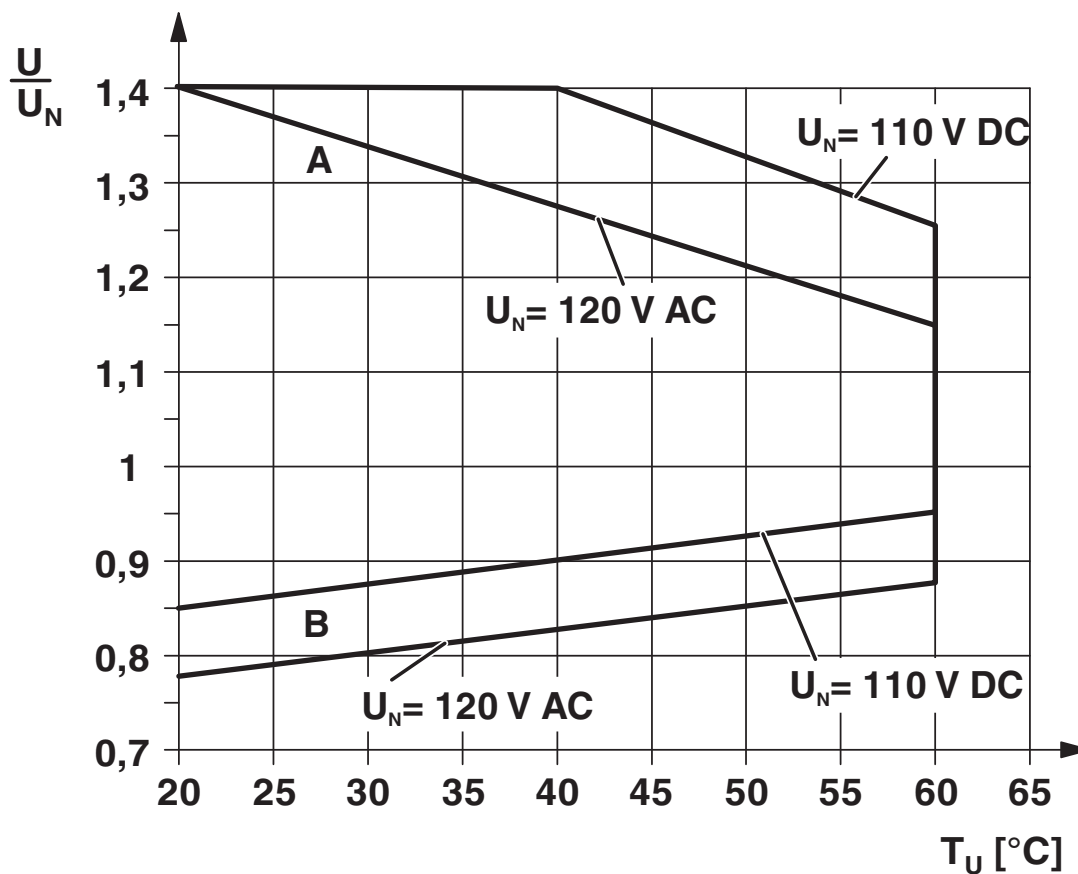
|                       |                           |
|-----------------------|---------------------------|
| Mounting type         | DIN rail mounting         |
| Assembly instructions | in rows with zero spacing |
| Mounting position     | any                       |

## Drawings



Interrupting rating

Diagram



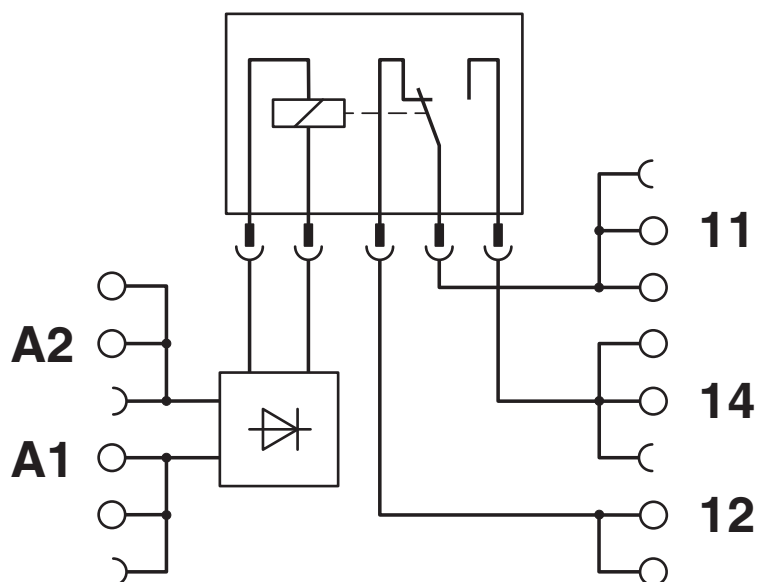
## Curve A

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

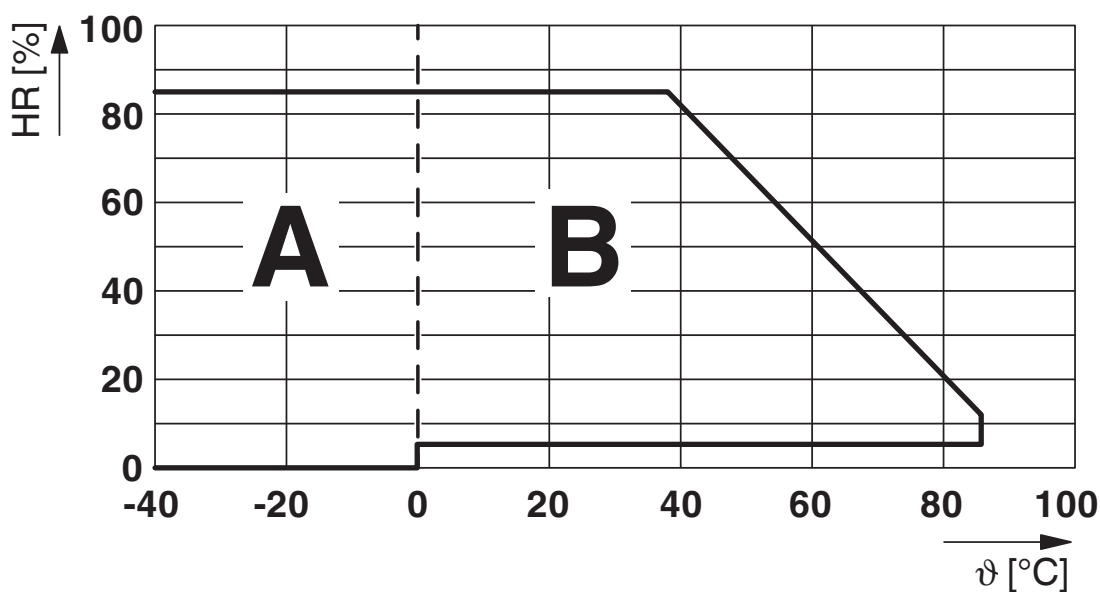
## Curve B

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

Circuit diagram



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  $\leq 25^{\circ}\text{C}$ .



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/in/products/2909533>



**DNV GL**

Approval ID: TAE0000196



**CCC**

Approval ID: 2021122304114118



**cULus Listed**

Approval ID: E140324



**IECEx**

Approval ID: IECEx IBE 16.0029X



**ATEX**

Approval ID: IBExU 16 ATEX B015 X



**EAC Ex**

Approval ID: RU C-DE.AB72.B.02328



**IECEx**

Approval ID: IECEx IBE 16.0029X



**cUL Listed**

Approval ID: FILE E 199827



**UL Listed**

Approval ID: FILE E 199827



**ATEX**

Approval ID: 16ATEXB015X



**cULus Listed**

Approval ID: E199827

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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

|            |  |
|------------|--|
| REACH SVHC | Lead 7439-92-1   |
|            | Hexahydromethylphthalic anhydride  |
| China RoHS | Environmentally Friendly Use Period = 50 years   |
|            | For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads" |

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PHOENIX CONTACT (I) Pvt. Ltd.  
A-58/2, Okhla Industrial Area, Phase - II, New Delhi-110 020

+91.1275.71420  
[info@phoenixcontact.co.in](mailto:info@phoenixcontact.co.in)