

# PLC-RPT-110UC/21AU/RW - Relay module



2900323

<https://www.phoenixcontact.com/us/products/2900323>

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PLC-INTERFACE for railway applications, consisting of basic terminal block with Push-in connection and plug-in miniature relay with multi-layer gold contact, range:  $0.7 \times U_N$  to  $1.25 \times U_N$ , temperature class TX:  $-40^\circ\text{C}$  to  $+70^\circ\text{C}$ , 1 changeover contact, input voltage 110 V DC

## Your advantages

- Optimum relay operation thanks to wide-range electronics
- Safe isolation between coil and contact side
- Vibration and shock resistance in accordance with EN 50155
- Certified in accordance with EN 50155
- Input voltage range of 0.7 to  $1.25 \times U_N$  ( $1.4 \times U_N$  briefly)
- Temperature range:  $-40^\circ\text{C}$  ...  $+70^\circ\text{C}$  (short-term  $85^\circ\text{C}$ )

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 2900323       |
| Packing unit                         | 10 pc         |
| Minimum order quantity               | 10 pc         |
| Sales key                            | C461          |
| Product key                          | DK62AL        |
| GTIN                                 | 4046356510066 |
| Weight per piece (including packing) | 33.67 g       |
| Weight per piece (excluding packing) | 33.67 g       |
| Customs tariff number                | 85364900      |
| Country of origin                    | DE            |

## Technical data

### Product properties

|                         |                                |
|-------------------------|--------------------------------|
| Product type            | Relay Module                   |
| Product family          | PLC-INTERFACE                  |
| Application             | Railway applications           |
| Environment             | Attached to the vehicle body   |
| Operating mode          | 100% operating factor          |
| Mechanical service life | approx. $2 \times 10^7$ cycles |

### Insulation characteristics

|                      |     |
|----------------------|-----|
| Overvoltage category | III |
| Pollution degree     | 2   |

### Data management status

|                              |            |
|------------------------------|------------|
| Date of last data management | 12.09.2025 |
|------------------------------|------------|

### Electrical properties

|                                                 |                                                      |
|-------------------------------------------------|------------------------------------------------------|
| Maximum power dissipation for nominal condition | 0.22 W                                               |
| Test voltage (Winding/contact)                  | 4 kV <sub>rms</sub> (50 Hz, 1 min., winding/contact) |
| Rated insulation voltage                        | 250 V AC                                             |
| Rated surge voltage                             | 6 kV                                                 |

### Input data

#### Coil side

|                                                      |                                      |
|------------------------------------------------------|--------------------------------------|
| Nominal input voltage $U_N$                          | 110 V DC                             |
| Input voltage range                                  | 77 V DC ... 137.5 V DC               |
| Input voltage range in reference to $U_N$            | 0.7 ... 1.25                         |
| Nominal voltage (plugged-in electromechanical relay) | 60 V DC                              |
| Drive and function                                   | monostable                           |
| Drive (polarity)                                     | polarized                            |
| Typical input current at $U_N$                       | 2 mA                                 |
| Typical response time                                | 4 ms                                 |
| Typical release time                                 | 4 ms                                 |
| Protective circuit                                   | Surge protection; Freewheeling diode |
|                                                      | RCZ filter                           |
|                                                      | Wide-range electronics               |
| Operating voltage display                            | Yellow LED                           |

### Output data

#### Switching

|                        |                      |
|------------------------|----------------------|
| Contact switching type | 1 changeover contact |
| Type of switch contact | Single contact       |

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|                                       |                                           |
|---------------------------------------|-------------------------------------------|
| Contact material                      | AgSnO <sub>2</sub> , hard gold-plated     |
| Maximum switching voltage             | 30 V AC                                   |
|                                       | 36 V DC                                   |
| Minimum switching voltage             | 100 mV (10 mA)                            |
| Limiting continuous current           | 50 mA                                     |
| Maximum inrush current                | 50 mA                                     |
| Min. switching current                | 1 mA (24 V)                               |
| Short-circuit current                 | 200 A (conditional short-circuit current) |
| Interrupting rating (ohmic load) max. | 1.2 W (at 24 V DC)                        |
| Output fuse                           | 4 A gL/gG NEOZED                          |
| Switching capacity                    | 1 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 (AC 15))                       |

Switching: when the gold layer is destroyed

|                                       |                                                                                                                                                             |
|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Note                                  | the following values are applicable if a gold layer is destroyed                                                                                            |
| Maximum switching voltage             | 250 V AC/DC (Separating plate PLC-ATP must be installed for voltages larger than 250 V (L1, L2, L3) between identical terminal blocks in adjacent modules.) |
| Minimum switching voltage             | 12 V AC/DC                                                                                                                                                  |
| Limiting continuous current           | 6 A (see derating curve)                                                                                                                                    |
| Min. switching current                | 10 mA                                                                                                                                                       |
| Interrupting rating (ohmic load) max. | 140 W (at 24 V DC)                                                                                                                                          |
|                                       | 20 W (at 48 V DC)                                                                                                                                           |
|                                       | 18 W (at 60 V DC)                                                                                                                                           |
|                                       | 23 W (at 110 V DC)                                                                                                                                          |
|                                       | 40 W (at 220 V DC)                                                                                                                                          |
|                                       | 1500 VA (for 250 V AC)                                                                                                                                      |
| Switching capacity                    | 2 A (at 24 V, DC13)                                                                                                                                         |
|                                       | 0.2 A (at 110 V, DC13)                                                                                                                                      |
|                                       | 0.1 A (at 220 V, DC13)                                                                                                                                      |
|                                       | 3 A (at 24 V, AC15)                                                                                                                                         |
|                                       | 3 A (at 120 V, AC15)                                                                                                                                        |
|                                       | 3 A (at 230 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>                 |
|                                  | 0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> (Single ferrule) |

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|                             |                                                             |
|-----------------------------|-------------------------------------------------------------|
|                             | 2x 0.5 mm <sup>2</sup> ... 1 mm <sup>2</sup> (TWIN ferrule) |
| Conductor cross-section AWG | 26 ... 14                                                   |

## 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 (Temperature class TX) |
| Ambient temperature (storage/transport) | -40 °C ... 85 °C                        |

## Approvals

### CE

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

### UKCA

|             |                |
|-------------|----------------|
| Certificate | UKCA-compliant |
|-------------|----------------|

### 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

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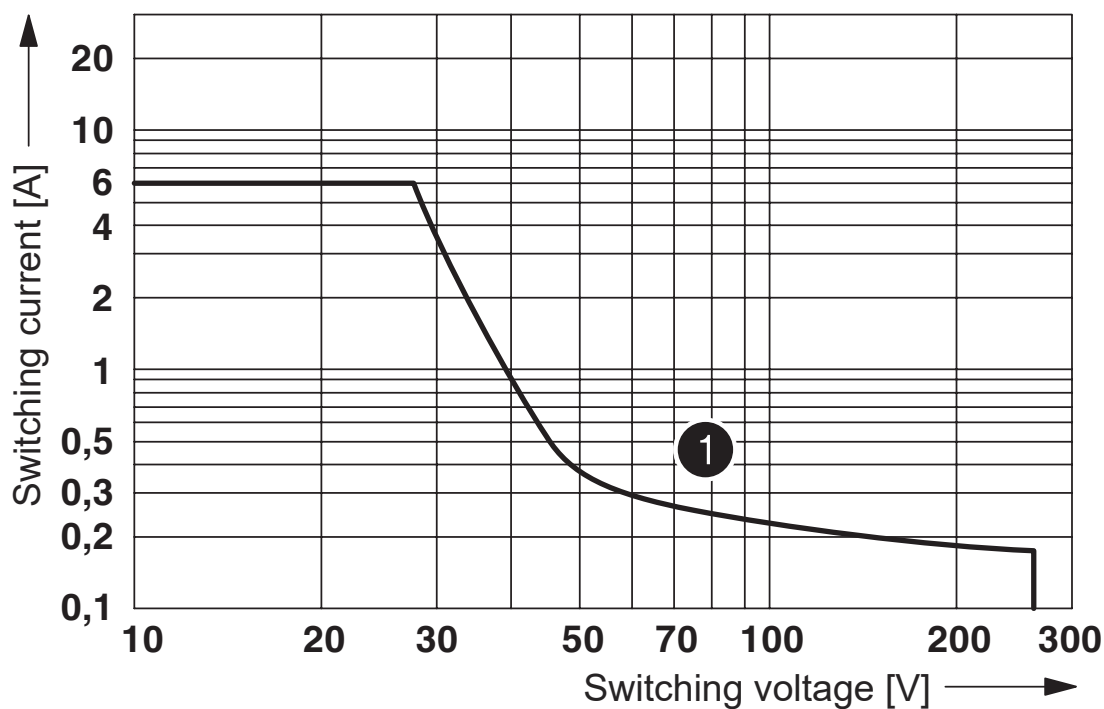
|                       |                              |
|-----------------------|------------------------------|
| Standards/regulations | IEC 60947-5-1                |
|                       | EN 50155 (VDE 0115 part 200) |
|                       | EN 61373                     |
|                       | EN 50121                     |

## Mounting

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

## Drawings

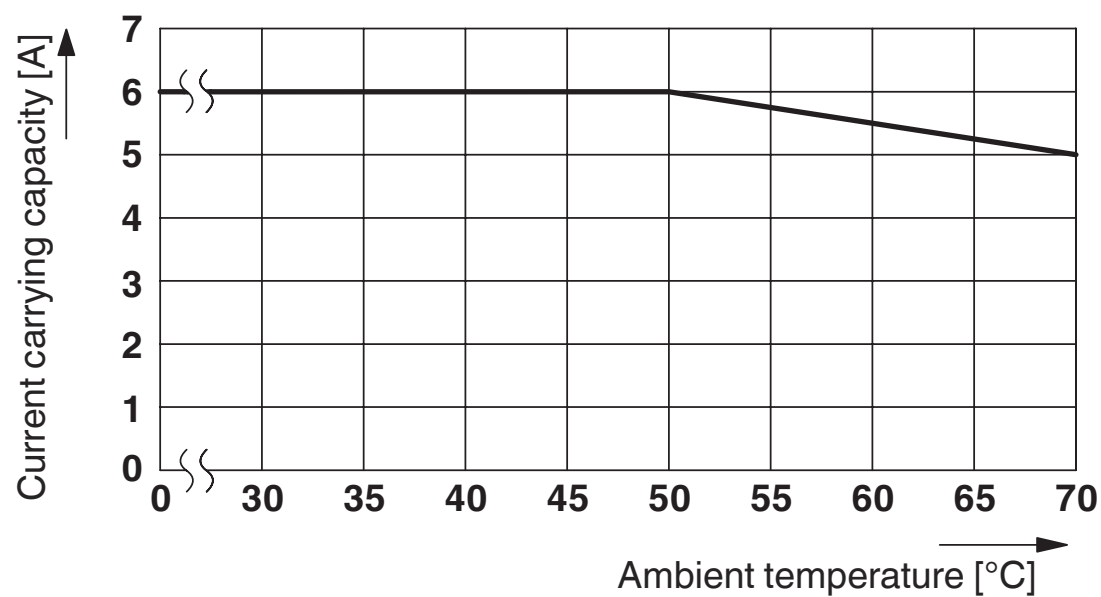
Diagram



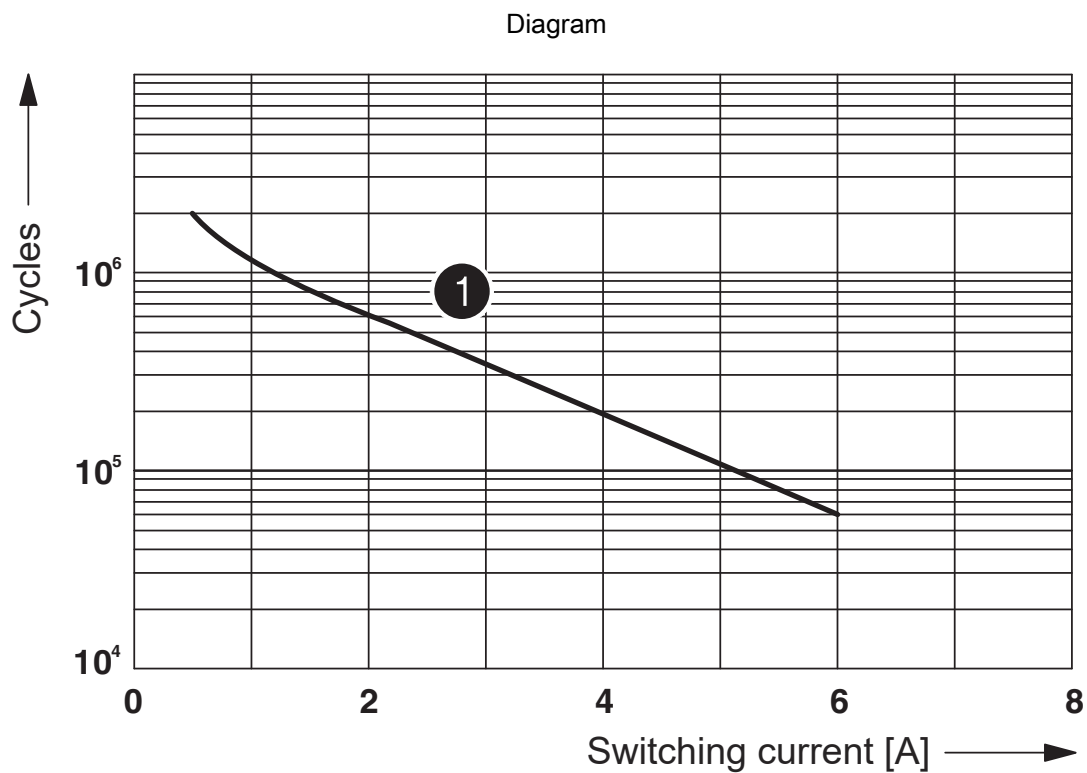
① ohmic load

## DC interrupting rating

Diagram



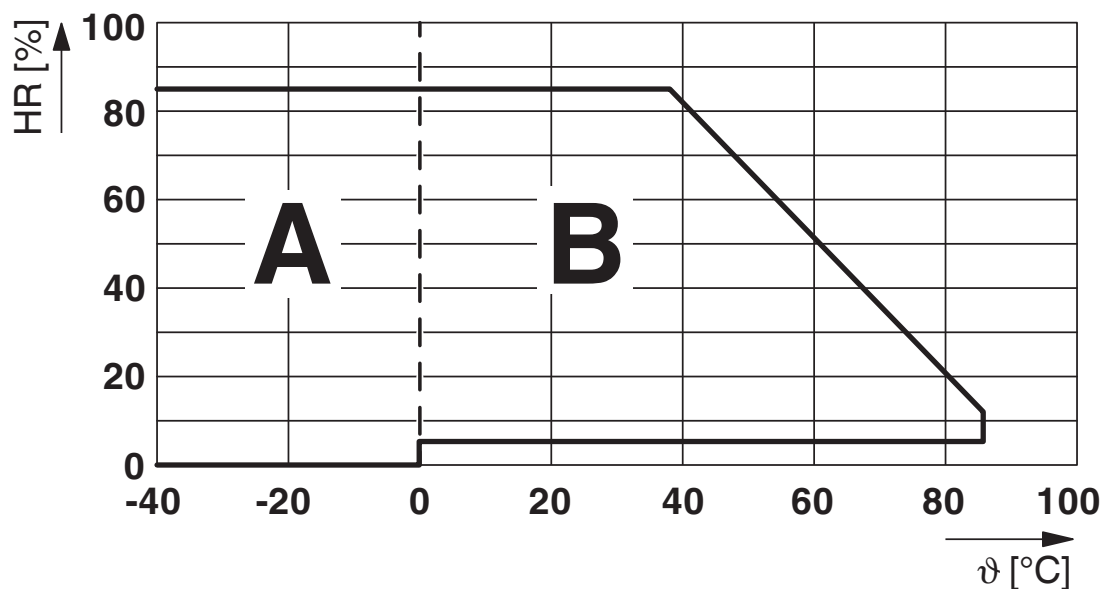
## Derating diagram



① 250 V AC, ohmic load

Electrical service life

Diagram



Permissible humidity for operation and storage.

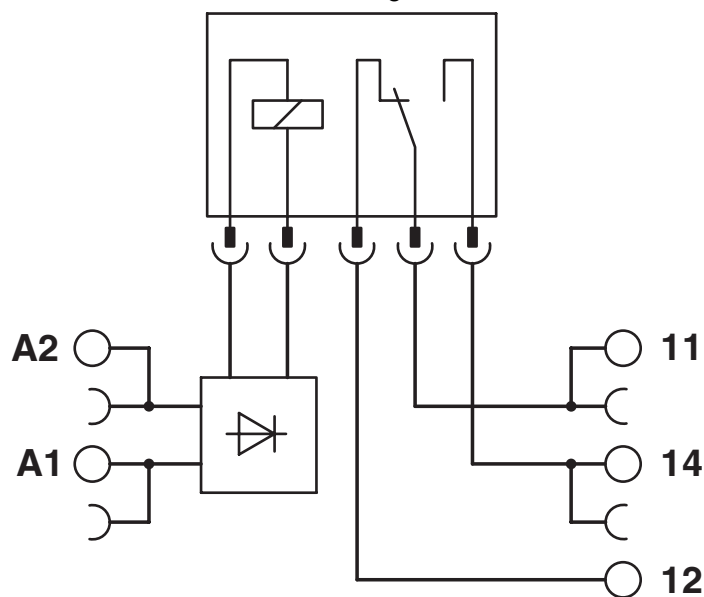
The maximum permissible ambient temperature as specified in the data sheet must be observed.

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

Circuit diagram



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2900323>

|                                                                                     |                                                 |
|-------------------------------------------------------------------------------------|-------------------------------------------------|
|    | <b>EAC</b><br>Approval ID: RU*C-DE.*08.B.00010  |
|    | <b>DNV GL</b><br>Approval ID: TAE0000196        |
|    | <b>cULus Listed</b><br>Approval ID: E140324     |
|   | <b>cUL Recognized</b><br>Approval ID: E238705   |
|  | <b>UL Recognized</b><br>Approval ID: E238705    |
|  | <b>UL Listed</b><br>Approval ID: FILE E 172140  |
|  | <b>cUL Listed</b><br>Approval ID: FILE E 172140 |

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27371601 |
| ECLASS-15.0 | 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          |
| 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.) | Lead(CAS: 7439-92-1)                 |
| SCIP                                | 09c33db8-8ca0-41a7-8cef-2cdd1a1f68f3 |

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