

# PLC-RPT- 12DC/21HC - Relay module



2900290

<https://www.phoenixcontact.com/us/products/2900290>

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PLC-INTERFACE for high continuous currents, consisting of PLC-BPT.../21 HC basic terminal block with Push-in connection and plug-in miniature relay, for mounting on DIN rail NS 35/7,5, limiting continuous current up to 10 A, 1 changeover contact, input voltage 12 V DC

## Your advantages

- Efficient connection to system cabling using V8 adapter
- All common input voltages of 12 V DC ... 230 V AC
- Long electrical service life thanks to 16 A relay
- Safe isolation between coil and contact side
- Max. continuous current of 10 A
- Functional plug-in bridges

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 2900290       |
| Packing unit                         | 10 pc         |
| Minimum order quantity               | 10 pc         |
| Sales key                            | C461          |
| Product key                          | DK62B6        |
| GTIN                                 | 4046356509251 |
| Weight per piece (including packing) | 72.77 g       |
| Weight per piece (excluding packing) | 60.4 g        |
| Customs tariff number                | 85364900      |
| Country of origin                    | DE            |

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## Technical data

### Product properties

|                         |                           |
|-------------------------|---------------------------|
| Product type            | Relay Module              |
| Product family          | PLC-INTERFACE             |
| Application             | High continuous currents  |
| Operating mode          | 100% operating factor     |
| Mechanical service life | 3x 10 <sup>7</sup> cycles |

### Insulation characteristics

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

### Data management status

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

### Electrical properties

|                                                 |       |
|-------------------------------------------------|-------|
| Maximum power dissipation for nominal condition | 0.4 W |
| Rated surge voltage                             | 6 kV  |

### Input data

#### Coil side

|                                                      |                                                                                                |
|------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Nominal input voltage U <sub>N</sub>                 | 12 V DC                                                                                        |
| Input voltage range                                  | 10.3 V DC ... 16.8 V DC (20 °C)                                                                |
| Nominal voltage (plugged-in electromechanical relay) | 12 V DC                                                                                        |
| Drive and function                                   | monostable                                                                                     |
| Drive (polarity)                                     | polarized                                                                                      |
| Typical input current at U <sub>N</sub>              | 33 mA                                                                                          |
| Typical response time                                | 8 ms                                                                                           |
| Typical release time                                 | 10 ms                                                                                          |
| Protective circuit                                   | Reverse polarity protection; Polarity protection diode<br>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 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...) |

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|                                               |                                                                                                                   |
|-----------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| Minimum switching voltage                     | 12 V (10 mA)                                                                                                      |
| Limiting continuous current                   | 10 A                                                                                                              |
|                                               | 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)                                                                                                |
|                                               | 58 W (at 48 V DC)                                                                                                 |
|                                               | 48 W (at 60 V DC)                                                                                                 |
|                                               | 50 W (at 110 V DC)                                                                                                |
|                                               | 80 W (at 220 V DC)                                                                                                |
| Interrupting rating (ohmic load) max. bridged | 2500 VA (for 250 V AC)                                                                                            |
|                                               | 144 W (for 24 V DC. Value applies to connections 12. If connections 12 are bridged, the normal value applies.)    |
| Switching capacity                            | 1500 VA (for 250 V AC. Value applies to connections 12. If connections 12 are bridged, the normal value applies.) |
|                                               | 2 A (at 24 V, DC13)                                                                                               |
|                                               | 0.2 A (at 110 V, DC13)                                                                                            |
|                                               | 0.2 A (at 250 V, DC13)                                                                                            |
|                                               | 6 A (at 24 V, AC15)                                                                                               |
|                                               | 6 A (at 120 V, AC15)                                                                                              |
|                                               | 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>                 |
|                                  | 0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> (Single ferrule) |
|                                  | 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 |

## 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 II (Relay)     |
| Degree of protection (Relay base) | IP20 (Relay base) |

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|                                         |                  |
|-----------------------------------------|------------------|
| Ambient temperature (operation)         | -40 °C ... 60 °C |
| 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

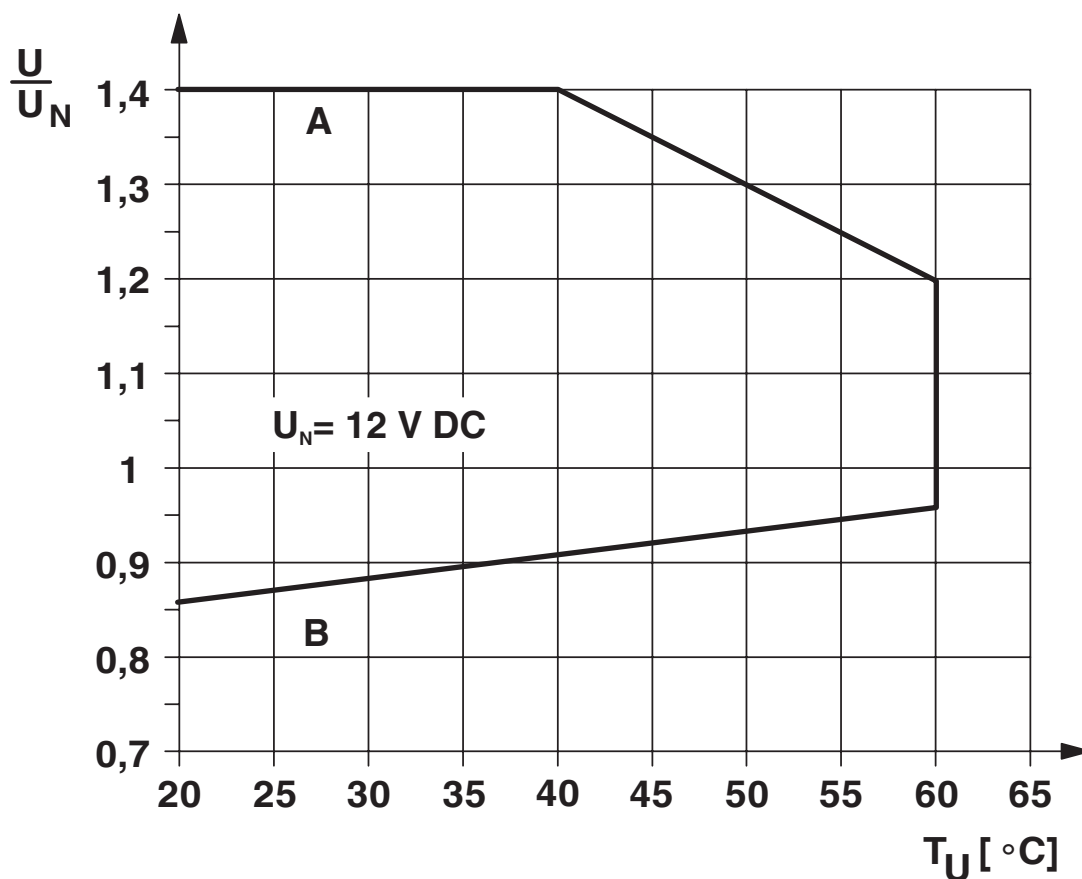
|                       |               |
|-----------------------|---------------|
| Standards/regulations | IEC 60947-5-1 |
|-----------------------|---------------|

## Mounting

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

## Drawings

Diagram

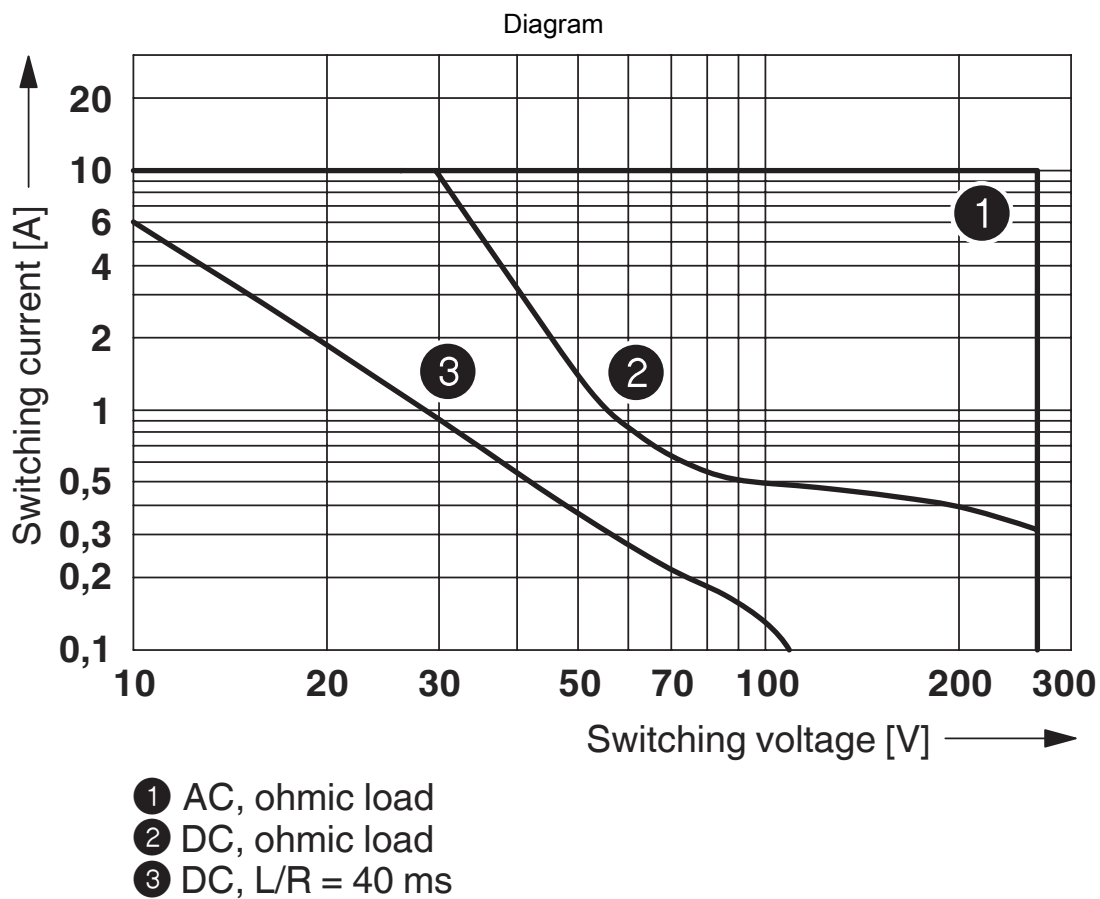


### Curve A

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

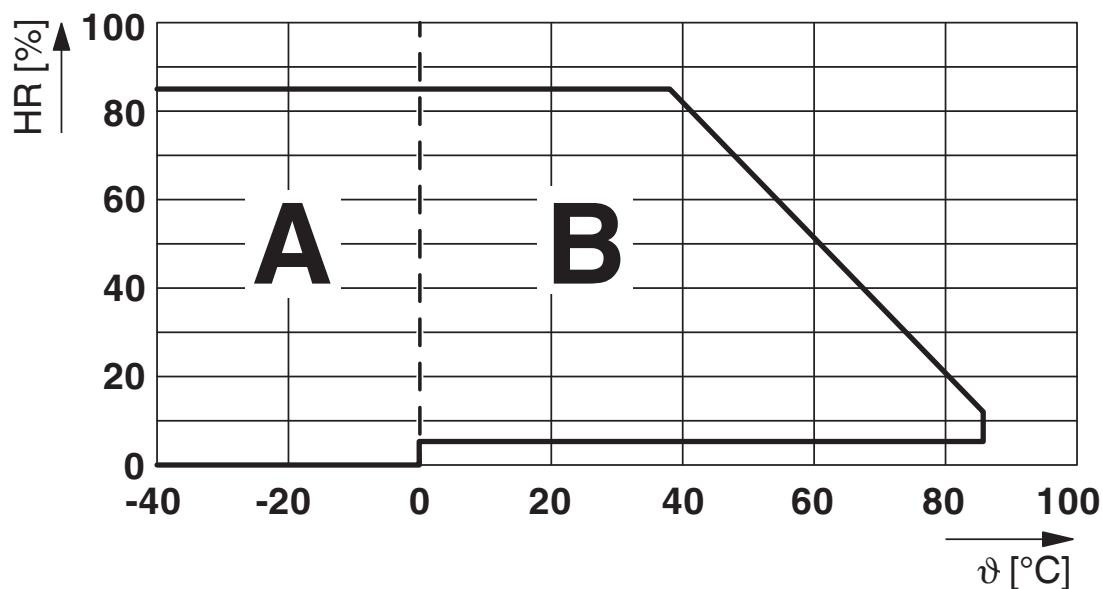
### Curve B

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



Interrupting rating

Diagram



Permissible humidity for operation and storage.

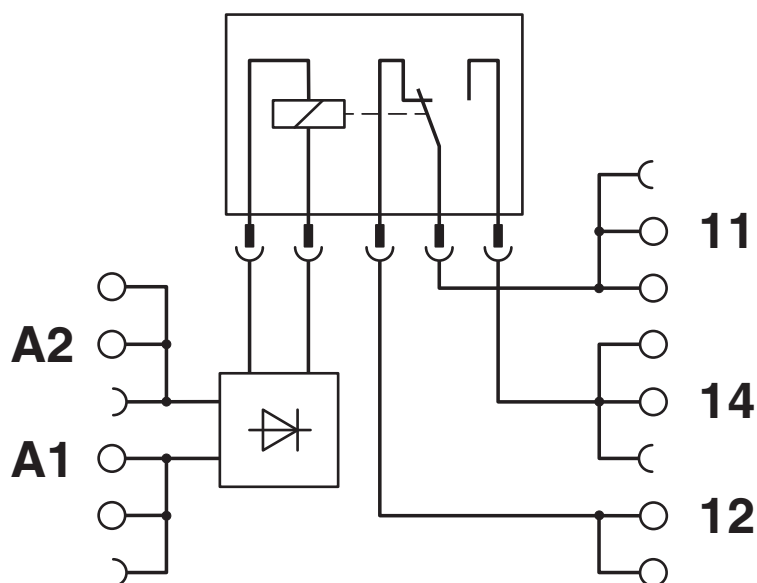
The maximum permissible ambient temperature as specified in the data sheet must be observed.

Area A: Ice buildup at ambient temperatures  $\leq 0^{\circ}\text{C}$  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/2900290>



**DNV GL**

Approval ID: TAE0000196



**cULus Listed**

Approval ID: E140324



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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.) | Hexahydromethylphthalic anhydride(CAS: n/a) |
|                                     | Lead(CAS: 7439-92-1)                        |
| SCIP                                | abc69f3a-5397-4c37-944c-0c8e57e644e5        |

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