

# PLC-BPT- 24UC/ 1/ACT - Relay base



2900450

<https://www.phoenixcontact.com/us/products/2900450>

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6.2 mm PLC basic terminal block for output functions with push-in connection, without relay or solid-state relay, for mounting on DIN rail NS 35/7,5, with load return line connection (BB), 1 N/O contact, input voltage 24 V AC/DC

## Your advantages

- PLC actuator series with solid-state power relays for coupling the controller and actuators, such as motors, contactors, valves, etc.

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 2900450       |
| Packing unit                         | 10 pc         |
| Minimum order quantity               | 10 pc         |
| Sales key                            | C461          |
| Product key                          | DK62A1        |
| GTIN                                 | 4046356512381 |
| Weight per piece (including packing) | 28.11 g       |
| Weight per piece (excluding packing) | 28.1 g        |
| Customs tariff number                | 85366990      |
| 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 socket   |
| Product family        | PLC-INTERFACE  |
| Application           | Output function  |
| Operating mode        | 100% operating factor  |
| Compatible components | Miniature relay, REL-MR-24DC/21, REL-MR-24DC/21AU; miniature optocoupler, OPT-24DC/24DC/2, OPT-24DC/48DC/100, OPT-24DC/230AC/1 |

### Input data

|                             |  |
|-----------------------------|--|
| Nominal input voltage $U_N$ | 24 V AC/DC<br>The nominal voltage of the plug-on electromechanical relay or solid-state relay (see necessary accessories) deviates from the nominal input voltage of the base with integrated upstream circuit |
| Protective circuit          | Bridge rectifier   |
| Nominal input voltage $U_N$ | 24 V AC/DC<br>The nominal voltage of the plug-on electromechanical relay or solid-state relay (see necessary accessories) deviates from the nominal input voltage of the base with integrated upstream circuit |

#### Relay assembly

|  |                                    |
|--|------------------------------------|
| Rated control circuit supply voltage $U_S$ | 24 V AC/DC                         |
| Voltage range with reference to $U_S$      | 0.8 ... 1.2                        |
| Typical input current at $U_N$             | 15.6 mA (50 Hz)<br>8.5 mA (60 Hz)  |
| Typical response time                      | 5 ms                               |
| Typical release time                       | 30 ms                              |
| Operating voltage display                  | Yellow LED                         |
| Protective circuit                         | Bridge rectifier; Bridge rectifier |

#### Optocoupler assembly

|  |                                    |
|--|------------------------------------|
| Rated control circuit supply voltage $U_S$ | 24 V AC/DC                         |
| Voltage range with reference to $U_S$      | 0.8 ... 1.2                        |
| Typical input current at $U_N$             | 15 mA (50 Hz)<br>8.3 mA (60 Hz)    |
| Typical response time                      | 10 ms                              |
| Typical release time                       | 20 ms                              |
| Operating voltage display                  | Yellow LED                         |
| Protective circuit                         | Bridge rectifier; Bridge rectifier |

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## Output data

|  |  |
|--|--|
| Compatible components                            | Miniature relay, REL-MR-24DC/21, REL-MR-24DC/21AU; miniature optocoupler, OPT-24DC/24DC/2, OPT-24DC/48DC/100, OPT-24DC/230AC/1 |
| Maximum switching voltage                        | 33 V DC  |
| Minimum switching voltage                        | 3 V DC   |
| Limiting continuous current                      | 3 A (see derating curve)   |
| Voltage drop at max. limiting continuous current | ≤ 150 mV   |
| Output circuit                                   | 2-conductor, floating  |
| Protective circuit                               | Reverse polarity protection Parallel polarity protection diode<br>Surge protection   |
| Maximum switching voltage                        | 48 V DC  |
| Minimum switching voltage                        | 3 V DC   |
| Limiting continuous current                      | 100 mA   |
| Voltage drop at max. limiting continuous current | ≤ 1 V  |
| Output circuit                                   | 2-conductor, floating  |
| Protective circuit                               | Reverse polarity protection Parallel polarity protection diode<br>Surge protection   |
| Maximum switching voltage                        | 253 V AC   |
| Minimum switching voltage                        | 24 V AC  |
| Limiting continuous current                      | 0.75 A (see derating curve)  |
| Voltage drop at max. limiting continuous current | ≤ 1 V  |
| Output circuit                                   | 2-conductor floating, zero voltage switch  |
| Protective circuit                               | RCV circuit  |
| Leakage current                                  | ≤ 1 mA   |
| Max. load value                                  | 4.5 A <sup>2</sup> s (tp = 10 ms, at 25 °C)  |

## 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  | 6.2 mm |
| Height | 80 mm  |
| Depth  | 94 mm  |

## Material specifications

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

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## Environmental and real-life conditions

### Ambient conditions

|   |                  |
|---|------------------|
| Ambient temperature (operation)         | -20 °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 |

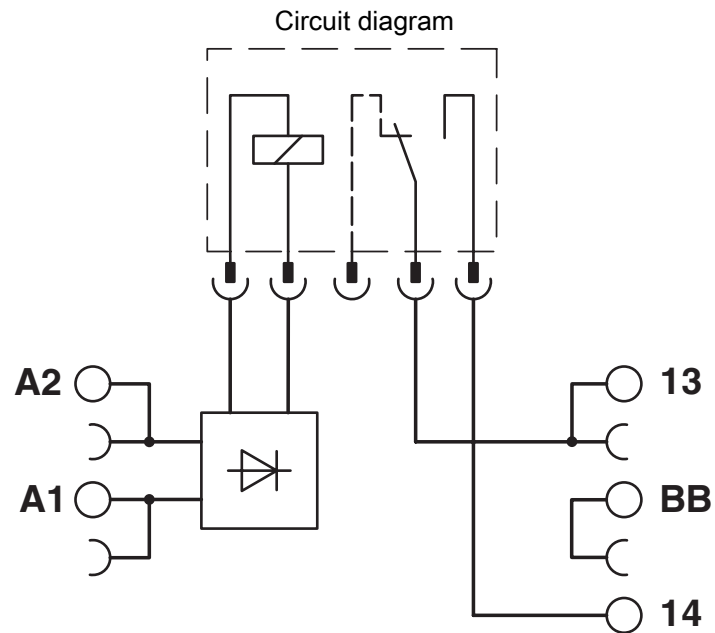
## Standards and regulations

|                       |                |
|-----------------------|----------------|
| Standards/regulations | IEC/EN 60664-1 |
|-----------------------|----------------|

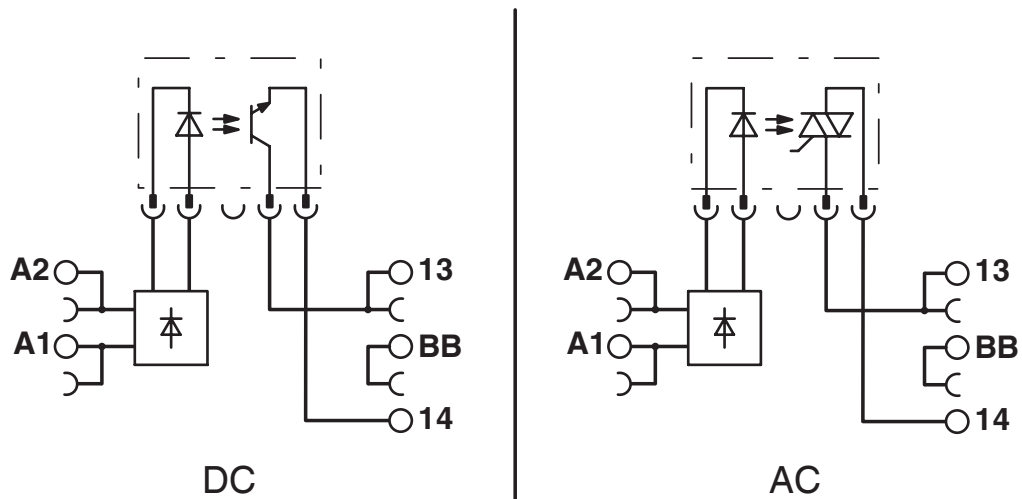
## Mounting

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

## Drawings



Circuit diagram



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2900450>



**cUL Recognized**  
Approval ID: E238705



**UL Recognized**  
Approval ID: E238705



**EAC**  
Approval ID: RU D-DE.B\*00573/18



**DNV GL**  
Approval ID: TAE0000196

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27371603 |
| ECLASS-15.0 | 27371603 |

### ETIM

|          |          |
|----------|----------|
| ETIM 9.0 | EC001456 |
|----------|----------|

### 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                                | f2608036-99a3-436b-9cbd-b1abad5de81f |

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