

# PLC-BSC-230UC/21/SO46 - Relay base



2980335

<https://www.phoenixcontact.com/us/products/2980335>

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6.2 mm PLC basic terminal block with protection against interference currents/voltages on the control side, with screw connection, without relay or solid-state relay, for mounting on DIN rail NS 35/7,5, with integrated RCZ filter, 1 changeover contact, input voltage 230 V AC

## Your advantages

- High relay release voltage
- Resistant to interference currents

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 2980335       |
| Packing unit                         | 10 pc         |
| Minimum order quantity               | 1 pc          |
| Sales key                            | C461          |
| Product key                          | DK622M        |
| GTIN                                 | 4017918895723 |
| Weight per piece (including packing) | 35.08 g       |
| Weight per piece (excluding packing) | 30.26 g       |
| Customs tariff number                | 85366990      |
| 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 socket                   |
| Product family | PLC-INTERFACE                  |
| Application    | Filter to prevent interference |
| Operating mode | 100% operating factor          |

#### Insulation characteristics

|                  |   |
|------------------|---|
| Pollution degree | 3 |
|------------------|---|

### Electrical properties

|                    |                                    |
|--------------------|------------------------------------|
| Protective circuit | Bridge rectifier; Bridge rectifier |
|                    | RCZ filter; RCZ filter             |

### Input data

|                             |                                                                                                                                                                                                  |
|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Nominal input voltage $U_N$ | 230 V AC                                                                                                                                                                                         |
|                             | 220 V DC                                                                                                                                                                                         |
|                             | 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 |
|                             | 230 V AC                                                                                                                                                                                         |
|                             | 220 V DC                                                                                                                                                                                         |
|                             | 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

|                                           |                                    |
|-------------------------------------------|------------------------------------|
| Nominal input voltage $U_N$               | 230 V AC                           |
| Input voltage range in reference to $U_N$ | 0.78 ... 1.14                      |
| Typical input current at $U_N$            | 8.8 mA (50 Hz)                     |
|                                           | 10 mA (60 Hz)                      |
| Typical response time                     | 7 ms                               |
| Typical release time                      | 20 ms                              |
| Typical release voltage                   | 80 V AC                            |
| Operating voltage display                 | Yellow LED                         |
| Protective circuit                        | Bridge rectifier; Bridge rectifier |
|                                           | Filter; Filter                     |

#### Optocoupler assembly

|                             |          |
|-----------------------------|----------|
| Nominal input voltage $U_N$ | 230 V AC |
|-----------------------------|----------|

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|                                                      |                                    |
|------------------------------------------------------|------------------------------------|
| Input voltage range in reference to $U_N$            | 0.8 ... 1.1                        |
| Typical input current at $U_N$                       | 8.8 mA (50 Hz)                     |
|                                                      | 10 mA (60 Hz)                      |
| Switching threshold "0" signal in reference to $U_N$ | $\leq 0.4$                         |
| Typical response time                                | 6 ms                               |
| Typical release time                                 | 10 ms                              |
| Operating voltage display                            | Yellow LED                         |
| Protective circuit                                   | Bridge rectifier; Bridge rectifier |
|                                                      | Filter; Filter                     |

## Output data

|                                                  |                                                                                                                                                                                                                                   |
|--------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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 DC                                                                                                                                                                                                                          |
| Output circuit                                   | 2-conductor, floating                                                                                                                                                                                                             |
| Protective circuit                               | Reverse polarity protection                                                                                                                                                                                                       |
|                                                  | Surge protection                                                                                                                                                                                                                  |
| Maximum switching voltage                        | 30 V DC                                                                                                                                                                                                                           |
| Minimum switching voltage                        | 3 V DC                                                                                                                                                                                                                            |
| Limiting continuous current                      | 3 A                                                                                                                                                                                                                               |
| Voltage drop at max. limiting continuous current | < 200 mV                                                                                                                                                                                                                          |
| Maximum inrush current                           | 15 A (10 ms)                                                                                                                                                                                                                      |
| Output circuit                                   | 2-conductor, floating                                                                                                                                                                                                             |
| Protective circuit                               | Reverse polarity protection                                                                                                                                                                                                       |
|                                                  | Surge protection                                                                                                                                                                                                                  |
| Maximum switching voltage                        | 253 V AC (Divider plate PLC-ATP must be installed for voltages larger than 250 V (L1, L2, L3) between identical terminal points in adjacent modules. Potential bridging is then carried out with FBST 8-PLC... or ...FBST 500...) |
| Minimum switching voltage                        | 24 V AC                                                                                                                                                                                                                           |
| Limiting continuous current                      | 0.75 A                                                                                                                                                                                                                            |
| Voltage drop at max. limiting continuous current | < 1 V AC                                                                                                                                                                                                                          |
| Maximum inrush current                           | 30 A (10 ms)                                                                                                                                                                                                                      |
| Output circuit                                   | 2-conductor, floating                                                                                                                                                                                                             |
| Protective circuit                               | RCV circuit                                                                                                                                                                                                                       |
| Leakage current                                  | < 1 mA                                                                                                                                                                                                                            |
| Phase angle cos phi min                          | 0.5                                                                                                                                                                                                                               |
| Max. load value                                  | 4.5 A <sup>2</sup> s                                                                                                                                                                                                              |

## Connection data

|                               |                                              |
|-------------------------------|----------------------------------------------|
| Connection method             | Screw connection                             |
| Stripping length              | 8 mm                                         |
| Screw thread                  | M3                                           |
| Conductor cross-section rigid | 0.14 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> |

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|                                  |                                       |
|----------------------------------|---------------------------------------|
| Conductor cross-section flexible | 0.14 mm² ... 2.5 mm²                  |
|                                  | 0.2 mm² ... 2.5 mm² (Single ferrule)  |
|                                  | 2x 0.5 mm² ... 1.5 mm² (TWIN ferrule) |
| Conductor cross-section AWG      | 26 ... 14                             |
| Tightening torque                | 0.6 Nm ... 0.8 Nm                     |

## Signaling

|                |     |
|----------------|-----|
| Status display | LED |
|----------------|-----|

## Dimensions

### Item 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

|                                         |                  |
|-----------------------------------------|------------------|
| Ambient temperature (operation)         | -40 °C ... 55 °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 |

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## EMC data

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

## Standards and regulations

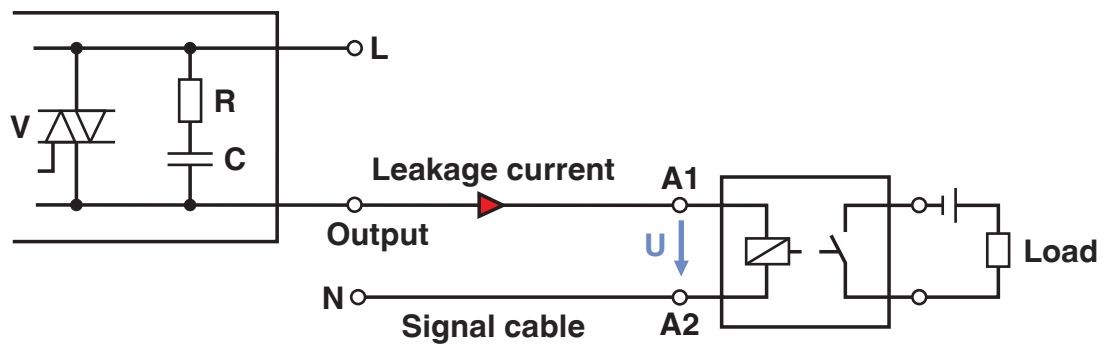
|                       |                |
|-----------------------|----------------|
| Standards/regulations | IEC/EN 60664-1 |
|-----------------------|----------------|

## Mounting

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

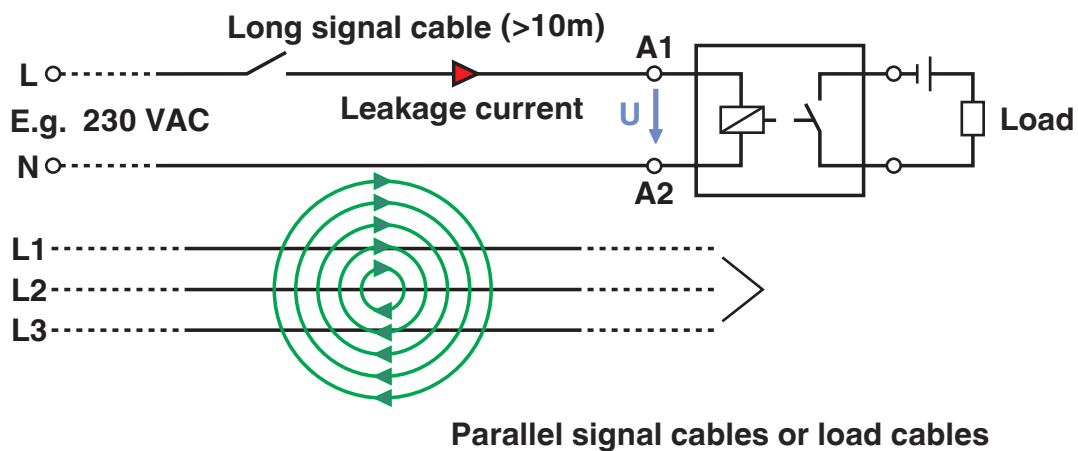
## Drawings

Application drawing



Occurrence of interference signals  
Scenario 1: controller - AC output card

Application drawing

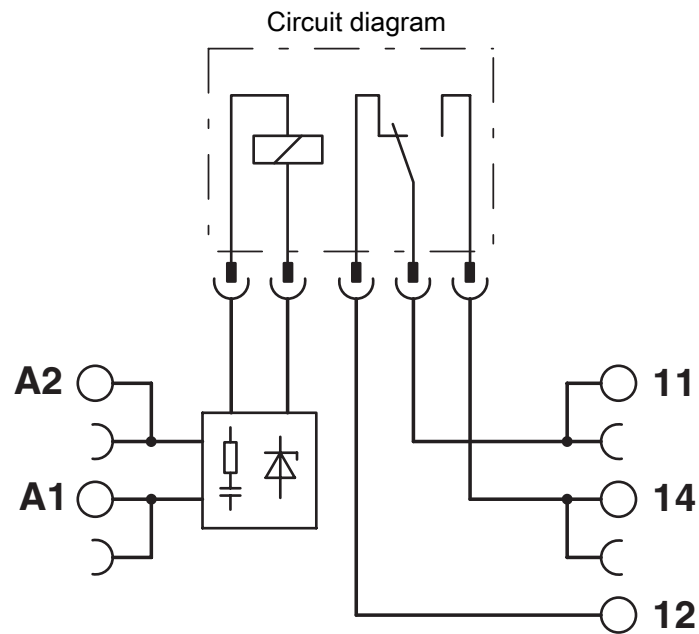


Occurrence of interference signals  
Scenario 2: long signal cables

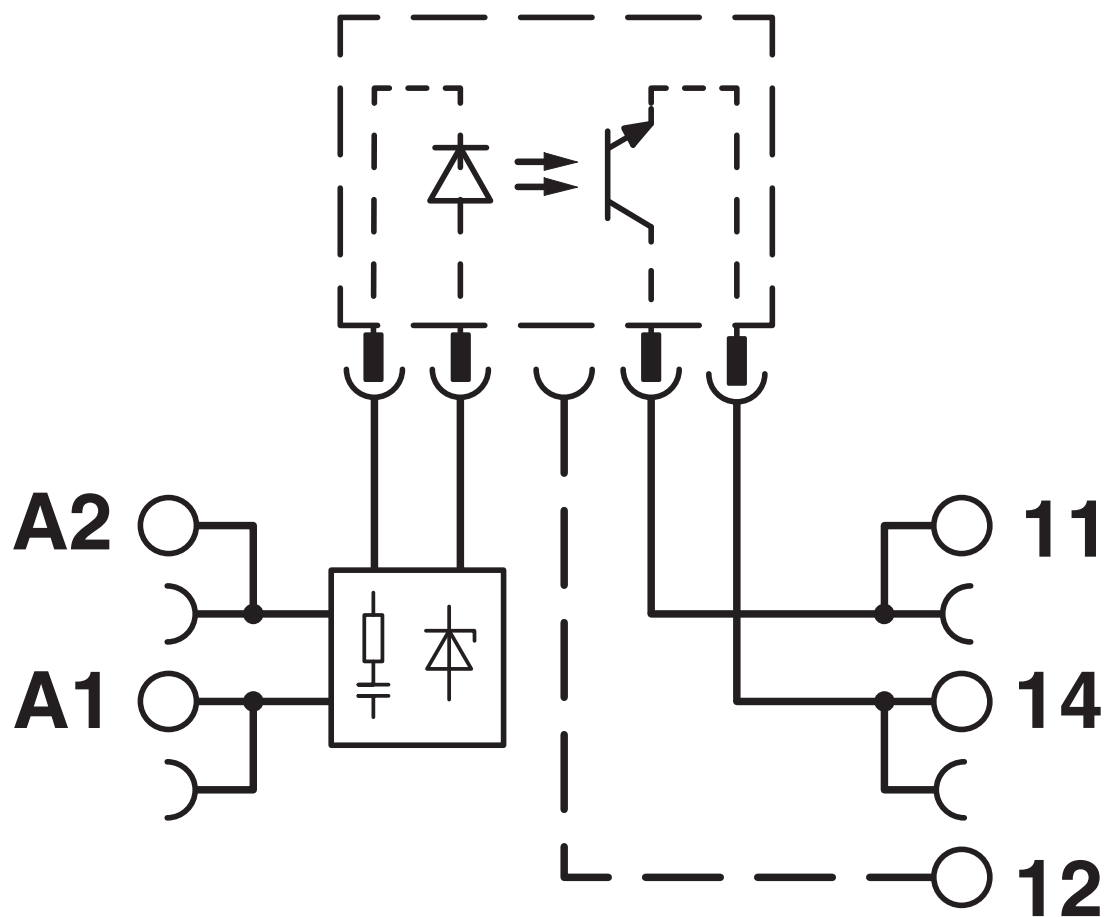
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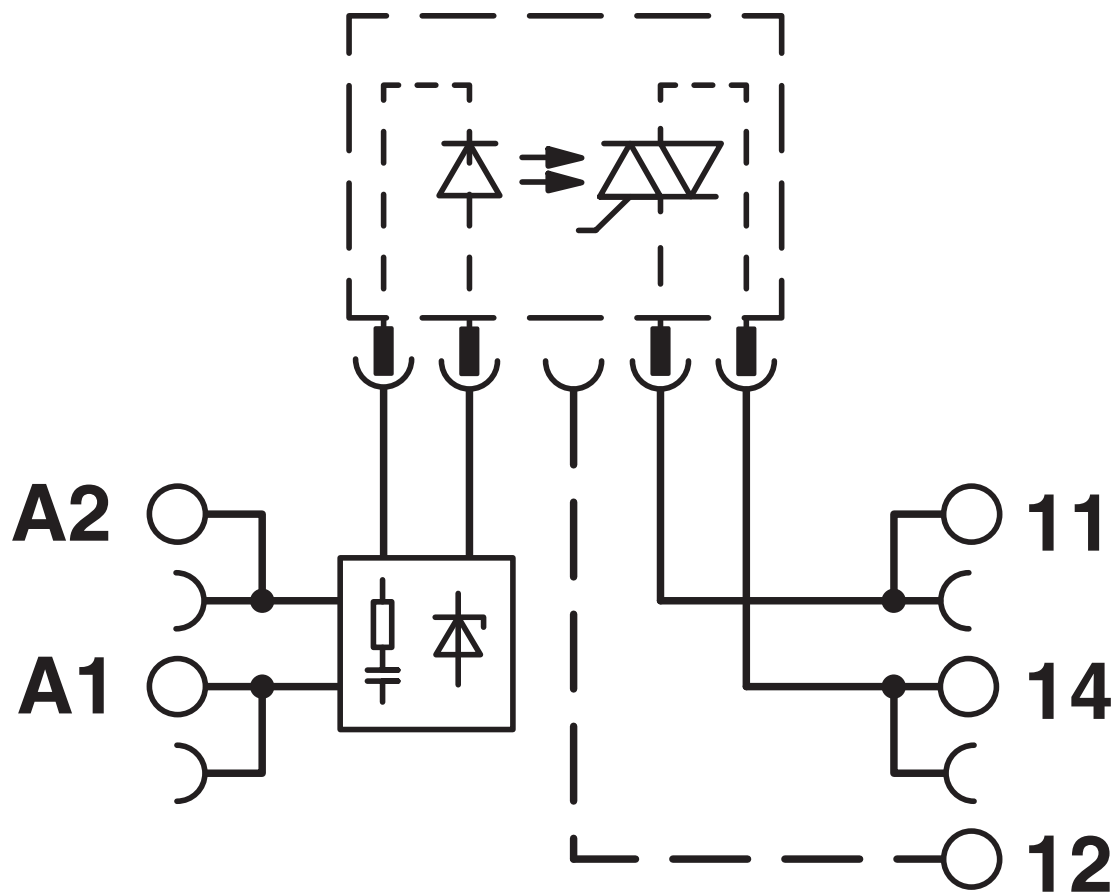


Circuit diagram



DC output

Circuit diagram



AC output

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2980335>



**cUL Recognized**  
Approval ID: E238705



**UL Recognized**  
Approval ID: E238705



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

**DNV**

Approval ID: TAE0000196

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## Classifications

### ECLASS

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

### ETIM

|           |          |
|-----------|----------|
| ETIM 10.0 | EC001456 |
|-----------|----------|

### 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)                                           |
|                                     | 2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol(CAS: 79-94-7) |
| SCIP                                | d16e42c1-db3e-45e5-9c8a-1c4e53bcccb5                           |

### EF3.1 Climate Change

|         |               |
|---------|---------------|
| CO2e kg | 0.325 kg CO2e |
|---------|---------------|