# 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 |

| | |
|---|---|
| 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 $U_N$ | ≤ 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 $A^2s$ |

## Connection data

| | |
|---|---|
| Connection method | Screw connection |
| Stripping length | 8 mm |
| Screw thread | M3 |
| Conductor cross-section rigid | 0.14 mm² ... 2.5 mm² |

| | |
|---|---|
| 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 |

## EMC data

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

## Standards and regulations

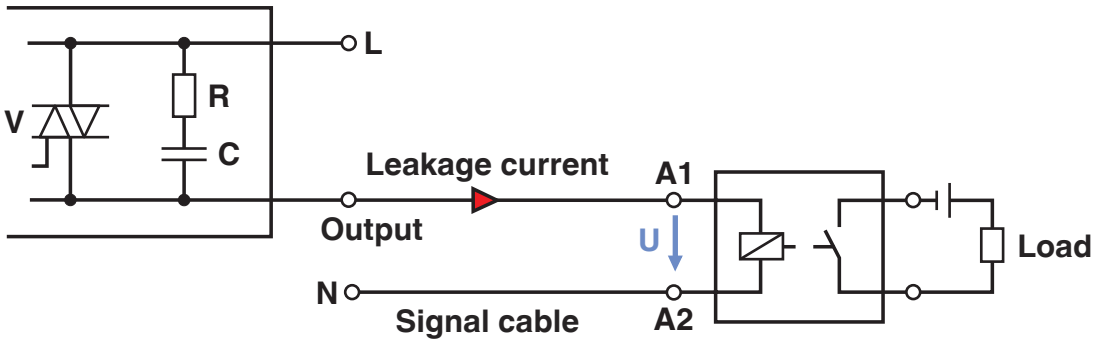
| | |
|---|---|
| Standards/regulations | IEC/EN 60664-1 |

## Mounting

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

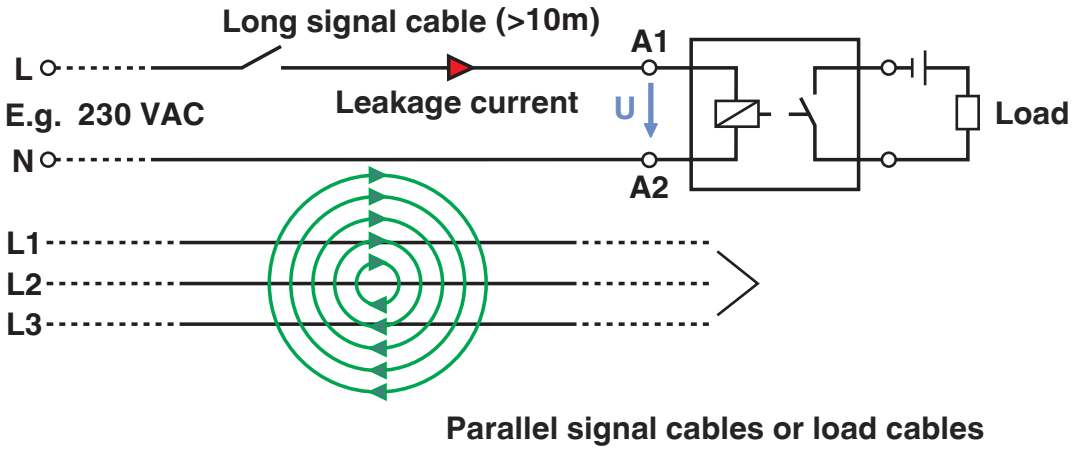
## Drawings

Application drawing



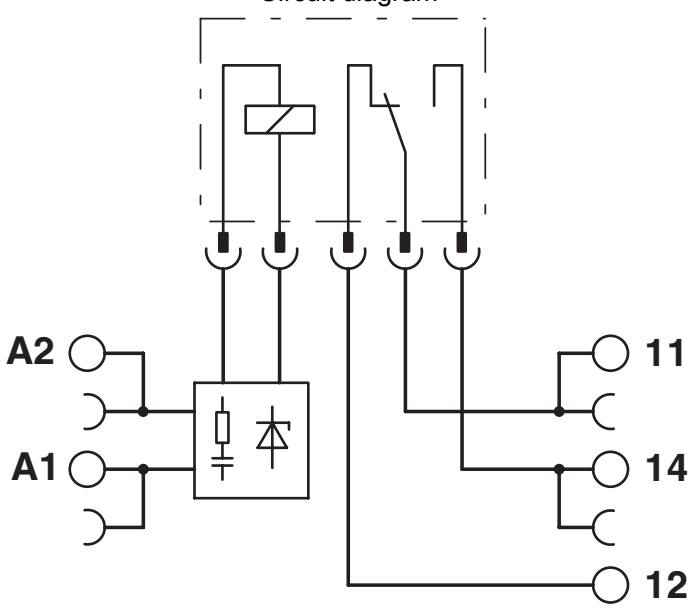

Occurrence of interference signals
Scenario 1: controller - AC output card

Application drawing

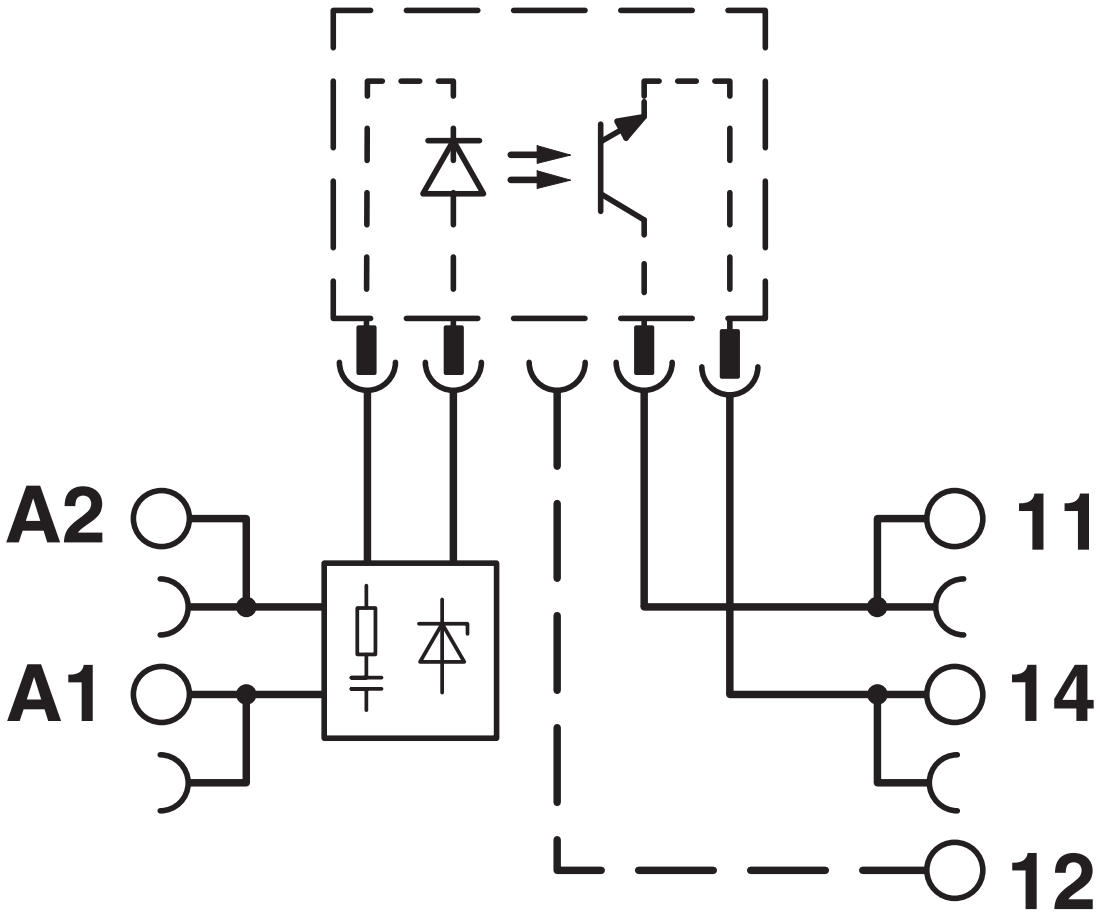



Occurrence of interference signals
Scenario 2: long signal cables

Circuit diagram

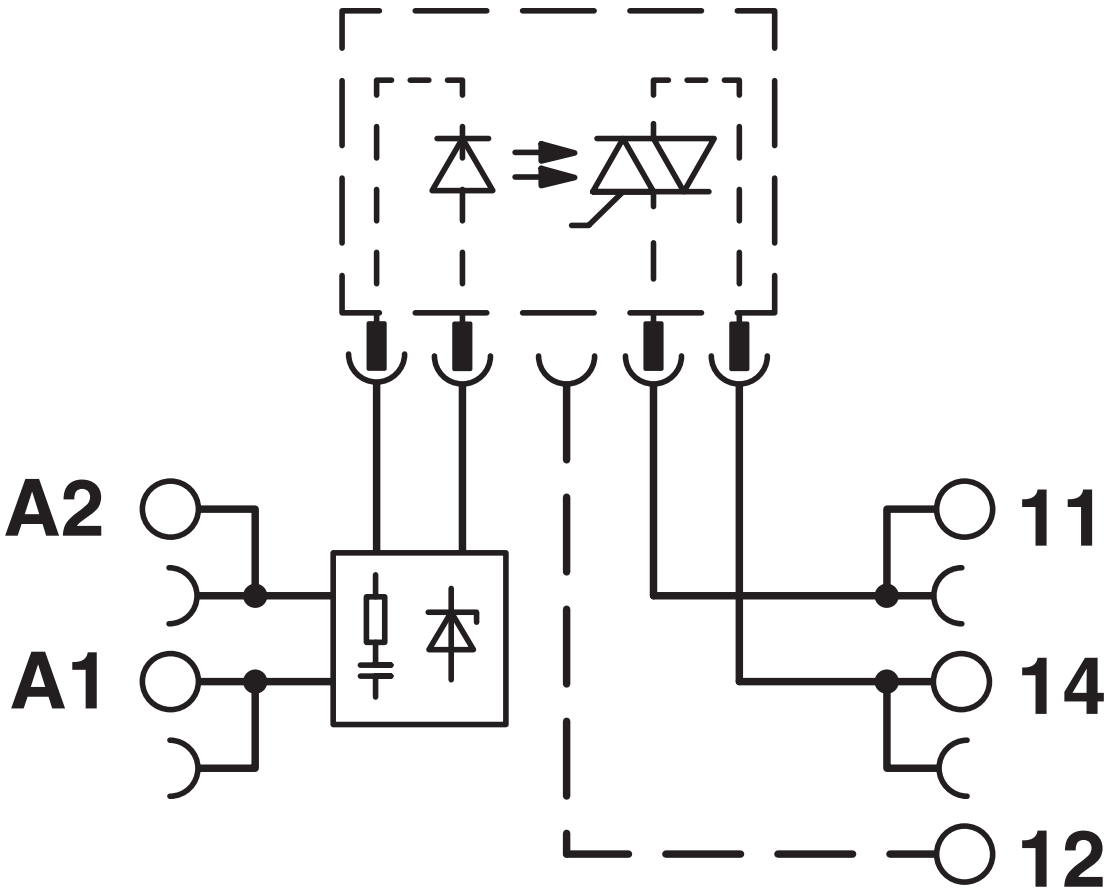


Circuit diagram




DC output

Circuit diagram




AC output

## 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

## 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 |

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