

## Relay Module - PLC-RSP- 24UC/21AU/RW - 2987024

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PLC-INTERFACE for railway applications, consisting of basic terminal block with spring-cage 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 PDT, input voltage 24 V DC

### Your advantages

- ✓ Optimum relay operation thanks to wide-range electronics
- ✓ Safe isolation according to DIN EN 50178 between coil and contact
- ✓ Certified according to EN 50155
- ✓ Vibration and shock resistance according to EN 50155
- ✓ Input voltage range of  $0.7$  to  $1.25 \times U_N$  ( $1.4 \times U_N$  briefly)
- ✓ Temperature range from  $-40^\circ\text{C}$  to  $+70^\circ\text{C}$  ( $+85^\circ\text{C}$  briefly)
- ✓ Spring-cage and Push-in connection technology



### Key Commercial Data

|              |               |
|--------------|---------------|
| Packing unit | 10 pc         |
| GTIN         |               |
| GTIN         | 4046356155151 |

### Technical data

#### Dimensions

|        |        |
|--------|--------|
| Width  | 6.2 mm |
| Height | 80 mm  |
| Depth  | 94 mm  |

#### Ambient conditions

|   |   |
|---|---|
| Ambient temperature (operation)         | $-40^\circ\text{C}$ ... $70^\circ\text{C}$ (Temperature class TX) |
| Ambient temperature (storage/transport) | $-40^\circ\text{C}$ ... $85^\circ\text{C}$                        |

#### Coil side

|   |                  |
|---|------------------|
| Nominal input voltage $U_N$               | 24 V DC          |
| Input voltage range in reference to $U_N$ | $0.7$ ... $1.25$ |

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## Technical data

### Coil side

|   |                                   |
|---|-----------------------------------|
| Typical input current at $U_N$          | 9 mA                              |
| Typical response time                   | 4 ms                              |
| Typical release time                    | 4 ms                              |
| Coil voltage                            | 12 V DC                           |
| Protective circuit                      | Bridge rectifier Bridge rectifier |
|   | Free-wheeling diode Damping diode |
|   | Surge protection                  |
|   | RCZ filter                        |
|   | Wide-range electronics            |
| Operating voltage display               | Yellow LED                        |
| Power dissipation for nominal condition | 0.22 W                            |

### Contact side

|                                       |                         |
|---------------------------------------|-------------------------|
| Contact type                          | 1 PDT                   |
| Type of switch contact                | Single contact          |
| Contact material                      | AgSnO, hard gold-plated |
| Maximum switching voltage             | 30 V AC                 |
|                                       | 36 V DC                 |
| Minimum switching voltage             | 100 mV (at 10 mA)       |
| Min. switching current                | 1 mA (at 24 V)          |
| Maximum inrush current                | 50 mA                   |
| Limiting continuous current           | 50 mA                   |
| Interrupting rating (ohmic load) max. | 1.2 W (at 24 V DC)      |
| 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))     |

### Contact side (with destroyed gold layer)

|                                       |   |
|---------------------------------------|---|
| 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   |
| 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)  |

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## Technical data

### Contact side (with destroyed gold layer)

|                    |                        |
|--------------------|------------------------|
|                    | 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 input side

|                                  |  |
|----------------------------------|--|
| Connection name                  | Coil side                                    |
| Connection method                | Spring-cage connection                       |
| Stripping length                 | 8 mm   |
| Conductor cross section solid    | 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> |
| Conductor cross section AWG      | 26 ... 14                                    |

### Connection data output side

|                                  |  |
|----------------------------------|--|
| Connection name                  | Contact side                                 |
| Connection method                | Spring-cage connection                       |
| Stripping length                 | 8 mm   |
| Conductor cross section solid    | 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> |
| Conductor cross section AWG      | 26 ... 14                                    |

## General

|  |                                     |
|--|-------------------------------------|
| Test voltage relay winding/relay contact | 4 kV <sub>rms</sub> (50 Hz, 1 min.) |
| Operating mode                           | 100% operating factor               |
| Flammability rating according to UL 94   | V0 (Housing)                        |
| Mechanical service life                  | approx. 2x 10 <sup>7</sup> cycles   |
| Mounting position                        | any                                 |
| Assembly instructions                    | In rows with zero spacing           |

## Standards and Regulations

|                                  |                              |
|----------------------------------|------------------------------|
| Connection in acc. with standard | CUL                          |
| Standards/regulations            | EN 50155 (VDE 0115 part 200) |
|                                  | EN 50178                     |
|                                  | EN 61373                     |
|                                  | EN 50121                     |
| Rated insulation voltage         | 250 V AC                     |
| Rated surge voltage              | 6 kV                         |
| Pollution degree                 | 2                            |
| Overvoltage category             | III                          |

# Relay Module - PLC-RSP- 24UC/21AU/RW - 2987024

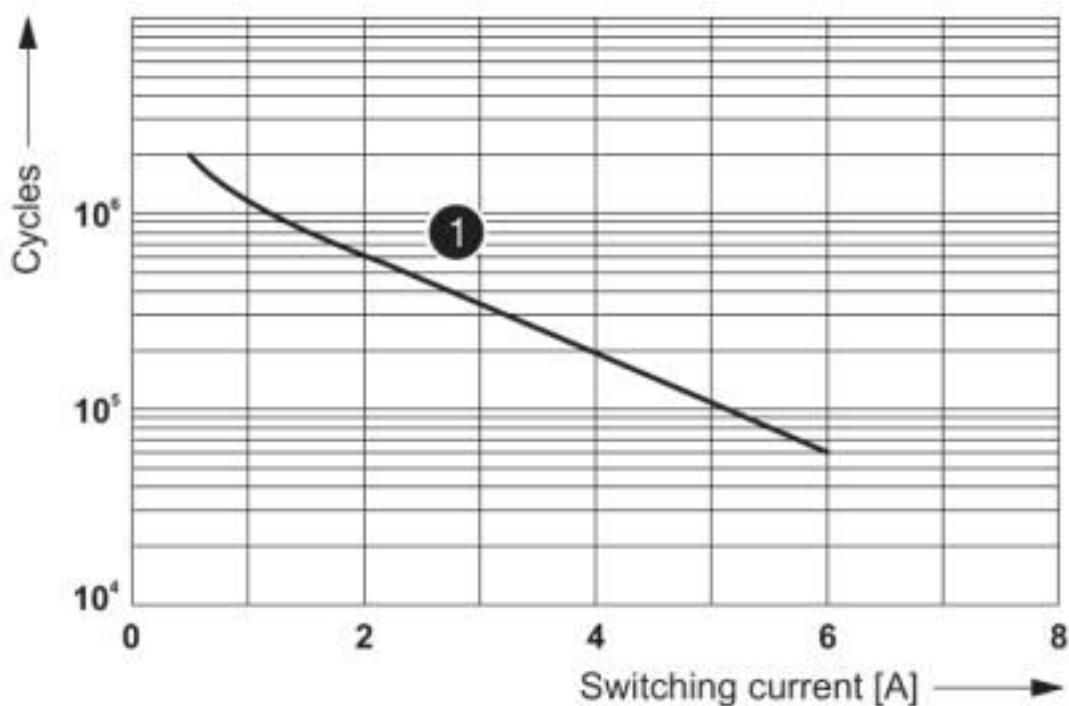
## Technical data

### Environmental Product Compliance

|            |   |
|------------|---|
| REACH SVHC | Lead 7439-92-1  |
| China RoHS | Environmentally Friendly Use Period = 50 years  |
|            | For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration" |

## Drawings

Diagram

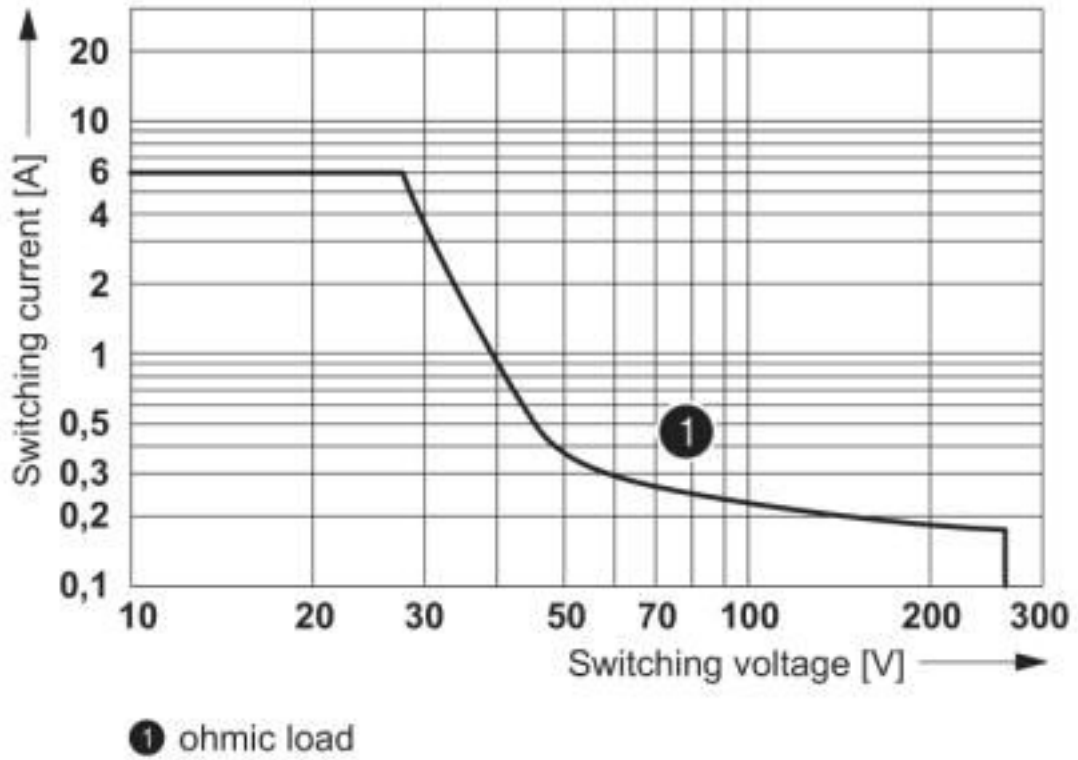


❶ 250 V AC, ohmic load

Electrical service life

# Relay Module - PLC-RSP- 24UC/21AU/RW - 2987024

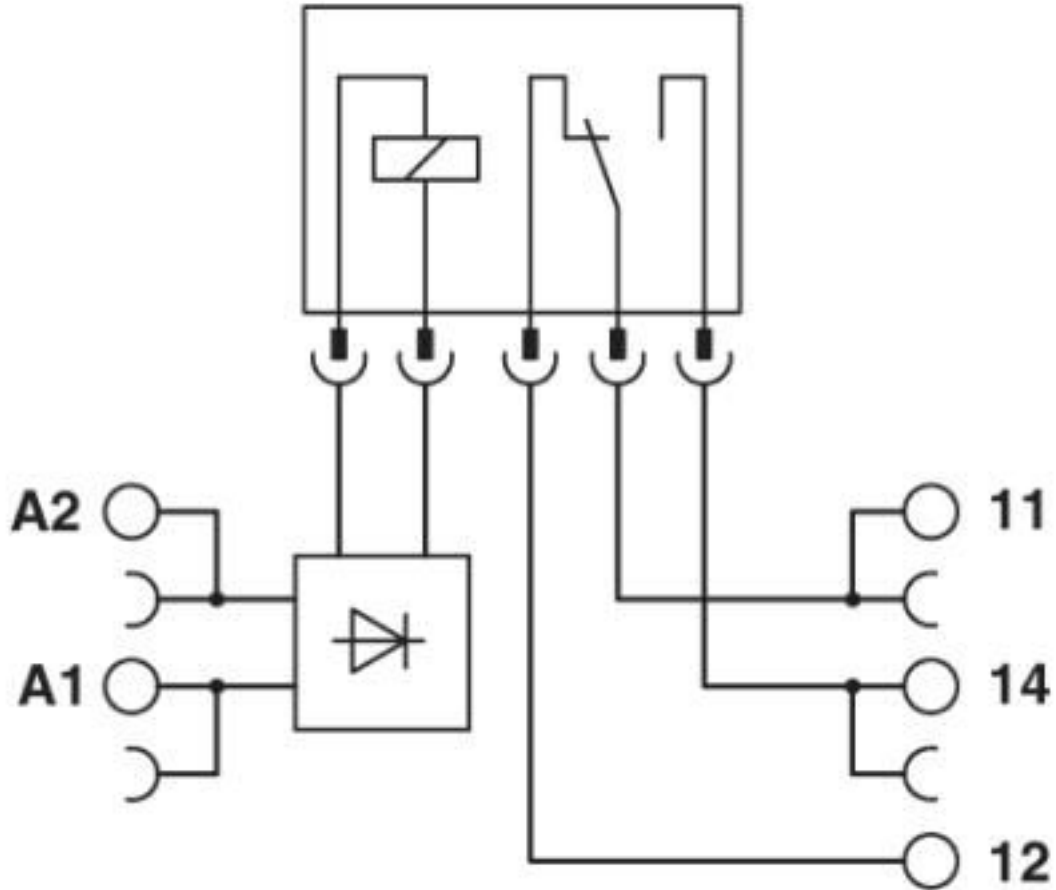
Diagram



DC interrupting rating

# Relay Module - PLC-RSP- 24UC/21AU/RW - 2987024

Circuit diagram



## Classifications

eCl@ss

|            |          |
|------------|----------|
| eCl@ss 5.0 | 27371601 |
| eCl@ss 5.1 | 27371600 |
| eCl@ss 6.0 | 27371600 |
| eCl@ss 7.0 | 27371601 |
| eCl@ss 8.0 | 27371601 |
| eCl@ss 9.0 | 27371601 |

ETIM

|          |          |
|----------|----------|
| ETIM 2.0 | EC001437 |
| ETIM 3.0 | EC001437 |
| ETIM 4.0 | EC001437 |
| ETIM 5.0 | EC001437 |
| ETIM 6.0 | EC001437 |
| ETIM 7.0 | EC001437 |

# Relay Module - PLC-RSP- 24UC/21AU/RW - 2987024

## Classifications

### UNSPSC

|               |          |
|---------------|----------|
| UNSPSC 6.01   | 30211916 |
| UNSPSC 7.0901 | 39121515 |
| UNSPSC 11     | 39121515 |
| UNSPSC 12.01  | 39121515 |
| UNSPSC 13.2   | 39122334 |
| UNSPSC 19.0   | 39122334 |

## Accessories

### Accessories

#### Bridge

Continuous plug-in bridge - FBST 500-PLC RD - 2966786



Continuous plug-in bridge, length: 500 mm, color: red

Continuous plug-in bridge - FBST 500-PLC BU - 2966692



Continuous plug-in bridge, length: 500 mm, color: blue

Continuous plug-in bridge - FBST 500-PLC GY - 2966838



Continuous plug-in bridge, length: 500 mm, color: gray

Single plug-in bridge - FBST 6-PLC RD - 2966236



Single plug-in bridge, length: 6 mm, number of positions: 2, color: red

## Relay Module - PLC-RSP- 24UC/21AU/RW - 2987024

### Accessories

Single plug-in bridge - FBST 6-PLC BU - 2966812



Single plug-in bridge, length: 6 mm, number of positions: 2, color: blue

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Single plug-in bridge - FBST 6-PLC GY - 2966825



Single plug-in bridge, length: 6 mm, number of positions: 2, color: gray

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Single plug-in bridge - FBST 8-PLC GY - 2967688



Single plug-in bridge, length: 8 mm, number of positions: 2, color: gray

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### DIN rail

DIN rail, unperforated - NS 35/ 7,5 V2A UNPERF 2000MM - 0801377



DIN rail, unperforated, Standard profile, width: 35 mm, height: 7.5 mm, acc. to EN 60715, material: Stainless steel V2A, uncoated, length: 2000 mm, color: silver

---

DIN rail perforated - NS 35/ 7,5 PERF 2000MM - 0801733



DIN rail perforated, Standard profile, width: 35 mm, height: 7.5 mm, acc. to EN 60715, material: Steel, galvanized, passivated with a thick layer, length: 2000 mm, color: silver

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## Relay Module - PLC-RSP- 24UC/21AU/RW - 2987024

### Accessories

DIN rail, unperforated - NS 35/ 7,5 CU UNPERF 2000MM - 0801762



DIN rail, unperforated, Standard profile, width: 35 mm, height: 7.5 mm, acc. to EN 60715, material: Copper, uncoated, length: 2000 mm, color: copper-colored

---

DIN rail, unperforated - NS 35/15 UNPERF 2000MM - 1201714



DIN rail, unperforated, Standard profile, width: 35 mm, height: 15 mm, similar to EN 60715, material: Steel, galvanized, passivated with a thick layer, length: 2000 mm, color: silver

---

DIN rail, unperforated - NS 35/15 CU UNPERF 2000MM - 1201895



DIN rail, unperforated, Standard profile, width: 35 mm, height: 15 mm, similar to EN 60715, material: Copper, uncoated, length: 2000 mm, color: copper-colored

---

DIN rail, unperforated - NS 35/15-2,3 UNPERF 2000MM - 1201798



DIN rail, unperforated, Standard profile 2.3 mm, width: 35 mm, height: 15 mm, acc. to EN 60715, material: Steel, galvanized, passivated with a thick layer, length: 2000 mm, color: silver

---

DIN rail, unperforated - NS 35/15 AL UNPERF 2000MM - 1201756



DIN rail, unperforated, Standard profile, width: 35 mm, height: 15 mm, similar to EN 60715, material: Aluminum, uncoated, length: 2000 mm, color: silver

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## Relay Module - PLC-RSP- 24UC/21AU/RW - 2987024

### Accessories

DIN rail perforated - NS 35/15 PERF 2000MM - 1201730



DIN rail perforated, Standard profile, width: 35 mm, height: 15 mm, similar to EN 60715, material: Steel, galvanized, passivated with a thick layer, length: 2000 mm, color: silver

DIN rail, unperforated - NS 35/ 7,5 UNPERF 2000MM - 0801681



DIN rail, unperforated, Standard profile, width: 35 mm, height: 7.5 mm, acc. to EN 60715, material: Steel, galvanized, passivated with a thick layer, length: 2000 mm, color: silver

### Labeled terminal marker

Zack marker strip - ZB 6,LGS:FORTL.ZAHLEN - 1051016



Zack marker strip, Strip, white, labeled, can be labeled with: CMS-P1-PLOTTER, printed horizontally: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 491 ... 500, mounting type: snap into tall marker groove, for terminal block width: 6.2 mm, lettering field size: 6.15 x 10.5 mm, Number of individual labels: 10

### Partition plate

Separating plate - PLC-ATP BK - 2966841



Separating plate, 2 mm thick, required at the start and end of a PLC terminal strip. Furthermore, it is used for: visual separation of groups, safe isolation of different voltages of neighboring PLC relays in acc. with DIN VDE 0106-101, isolation

### Power module

Power terminal block - PLC-ESK GY - 2966508



Power terminal block, for the input of up to four potentials, for mounting on NS 35/7.5

### Screwdriver tools

## Relay Module - PLC-RSP- 24UC/21AU/RW - 2987024

### Accessories

Screwdriver - SZF 1-0,6X3,5 - 1204517



Actuation tool, for ST terminal blocks, also suitable for use as a bladed screwdriver, size: 0.6 x 3.5 x 100 mm, 2-component grip, with non-slip grip

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### Terminal marking

Zack marker strip - ZB 6:UNBEDRUCKT - 1051003



Zack marker strip, Strip, white, unlabeled, can be labeled with: PLOTMARK, CMS-P1-PLOTTER, mounting type: snap into tall marker groove, for terminal block width: 6.2 mm, lettering field size: 6.15 x 10.5 mm, Number of individual labels: 10

---

Zack marker strip - ZB 6/WH-100:UNBEDRUCKT - 5060935



Zack marker strip, Strip, white, unlabeled, can be labeled with: PLOTMARK, CMS-P1-PLOTTER, mounting type: snap into tall marker groove, for terminal block width: 6.2 mm, lettering field size: 6.15 x 10.5 mm, Number of individual labels: 10

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Marker for terminal blocks - UC-TM 6 - 0818085



Marker for terminal blocks, Sheet, white, unlabeled, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, PLOTMARK, CMS-P1-PLOTTER, mounting type: snap into tall marker groove, for terminal block width: 6.2 mm, lettering field size: 5.6 x 10.5 mm, Number of individual labels: 80

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Marker for terminal blocks - UCT-TM 6 - 0828736



Marker for terminal blocks, Sheet, white, unlabeled, can be labeled with: TOPMARK NEO, TOPMARK LASER, BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, THERMOMARK PRIME, THERMOMARK CARD 2.0, THERMOMARK CARD, mounting type: snap into tall marker groove, for terminal block width: 6.2 mm, lettering field size: 5.6 x 10.5 mm, Number of individual labels: 60

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### Spare parts

## Relay Module - PLC-RSP- 24UC/21AU/RW - 2987024

### Accessories

Single relay - REL-MR- 12DC/21AU - 2961163



Plug-in miniature power relay, with multi-layer gold contact, 1 PDT, input voltage 12 V DC

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