

## Relay Module - PLC-RPT- 60DC/21AU - 2900309

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PLC-INTERFACE, consisting of PLC-BPT.../21 basic terminal block with push-in connection and plug-in miniature relay with multi-layer gold contact, for mounting on DIN rail NS 35/7,5, 1 PDT, input voltage 60 V DC

### Product Features

- Slim design
- Efficient connection to system cabling using V8 adapter
- Safe isolation according to DIN EN 50178 between coil and contact
- RT III sealed relay
- Functional plug-in bridges
- Integrated input circuit and interference suppression circuit



### Key Commercial Data

|                                      |          |
|--------------------------------------|----------|
| Packing unit                         | 1 pc     |
| Weight per Piece (excluding packing) | 32.6 g   |
| Custom tariff number                 | 85364190 |
| Country of origin                    | Germany  |

### Technical data

#### Note

|                         |   |
|-------------------------|---|
| Utilization restriction | EMC: class A product, see manufacturer's declaration in the download area |
|-------------------------|---|

#### Dimensions

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

#### Ambient conditions

# Relay Module - PLC-RPT- 60DC/21AU - 2900309

## Technical data

### Ambient conditions

|   |                  |
|---|------------------|
| Ambient temperature (operation)         | -40 °C ... 60 °C |
| Ambient temperature (storage/transport) | -40 °C ... 85 °C |

### Coil side

|   |   |
|---|---|
| Nominal input voltage $U_N$             | 60 V DC   |
| Typical input current at $U_N$          | 4.8 mA  |
| Typical response time                   | 5 ms  |
| Typical release time                    | 8 ms  |
| Protective circuit                      | Reverse polarity protection Polarity protection diode |
|   | Free-wheeling diode Damping diode                     |
| Operating voltage display               | Yellow LED  |
| Power dissipation for nominal condition | 0.29 W  |

### Contact side

|  |  |
|--|--|
| Contact type   | 1 PDT  |
| 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)   |
| Note   | the following values are applicable if a gold layer is destroyed |
| Maximum switching voltage                              | 250 V AC/DC  |
| Minimum switching voltage                              | 5 V (at 100 mA)  |
| Limiting continuous current                            | 6 A  |
| Min. switching current                                 | 10 mA (at 12 V)  |
| 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)   |
|  | 40 W (at 220 V DC)   |
|  | 1500 VA (for 250 V AC)   |
| Switching capacity in acc. with DIN VDE 0660/IEC 60947 | 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)  |

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## Technical data

### Contact side

|  |                      |
|--|----------------------|
|  | 3 A (at 120 V, AC15) |
|  | 3 A (at 230 V, AC15) |

### Connection data input side

|                                  |  |
|----------------------------------|--|
| Connection name                  | Coil side                                    |
| Connection method                | Push-in 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                | Push-in 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 AC (50 Hz, 1 min.)                       |
| Operating mode                           | 100% operating factor                         |
| Degree of protection                     | RT III (Relay)                                |
| Mechanical service life                  | 2 x 10 <sup>7</sup> cycles                    |
| Flammability rating according to UL 94   | V0  |
| Designation                              | Standards/regulations                         |
| Standards/regulations                    | IEC 60664                                     |
|  | IEC 60664A                                    |
|  | DIN VDE 0110                                  |
|  | DIN EN 50178/DIN VDE 0160 (in relevant parts) |
|  | DIN EN 50178/VDE 0160                         |
|  | IEC 60255/DIN VDE 0435 (in relevant parts)    |
| Degree of pollution                      | 3   |
| Overvoltage category                     | III   |
| Mounting position                        | any   |
| Assembly instructions                    | In rows with zero spacing                     |

### Standards and Regulations

|                                  |     |
|----------------------------------|-----|
| Connection in acc. with standard | CUL |
|----------------------------------|-----|

# Relay Module - PLC-RPT- 60DC/21AU - 2900309

## Technical data

### Standards and Regulations

| Designation                            | Standards/regulations                         |
|--|---|
| Standards/regulations                  | IEC 60664                                     |
|  | IEC 60664A                                    |
|  | DIN VDE 0110                                  |
|  | DIN EN 50178/DIN VDE 0160 (in relevant parts) |
|  | DIN EN 50178/VDE 0160                         |
|  | IEC 60255/DIN VDE 0435 (in relevant parts)    |
| Degree of pollution                    | 3   |
| Overvoltage category                   | III   |
| Flammability rating according to UL 94 | V0  |

## Articles in set

Relay socket - PLC-BPT- 60DC/21 - 2900279



6.2 mm PLC basic terminal block with push-in connection, without relay or solid-state relay, for mounting on DIN rail NS 35/7,5, 1 PDT, input voltage 60 V DC

Single relay - REL-MR- 60DC/21AU - 2961134



Plug-in miniature power relay, with multi-layer gold contact, 1 PDT, input voltage 60 V DC

## Classifications

eCl@ss

|            |          |
|------------|----------|
| eCl@ss 4.0 | 27371001 |
| eCl@ss 4.1 | 27371001 |
| eCl@ss 5.0 | 27371001 |
| eCl@ss 5.1 | 27371001 |
| eCl@ss 6.0 | 27371001 |
| eCl@ss 7.0 | 27371001 |
| eCl@ss 8.0 | 27371601 |

# Relay Module - PLC-RPT- 60DC/21AU - 2900309

## Classifications

### eCl@ss

|            |          |
|------------|----------|
| eCl@ss 9.0 | 27371601 |
|------------|----------|

### ETIM

|          |          |
|----------|----------|
| ETIM 3.0 | EC000196 |
| ETIM 4.0 | EC000196 |
| ETIM 5.0 | EC001437 |

### UNSPSC

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

## Approvals

### Approvals

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#### Approvals

UL Recognized / UL Listed / cUL Recognized / cUL Listed / GL / EAC / RC FRT / cULus Recognized / cULus Listed

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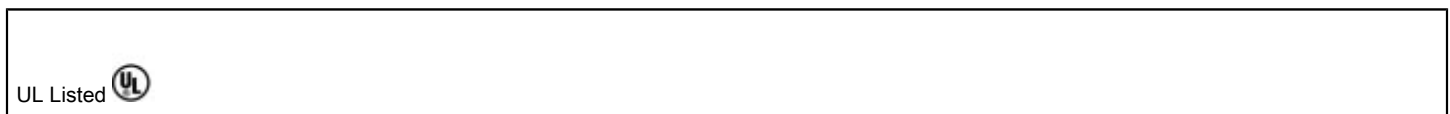
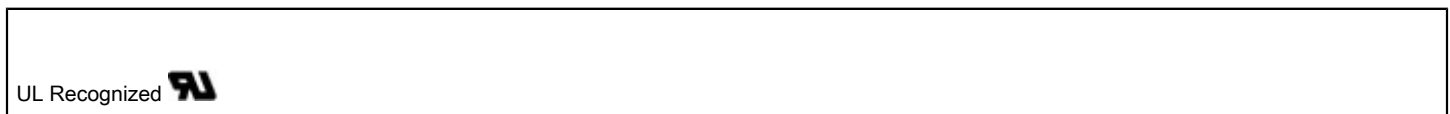
#### Ex Approvals

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#### Approvals submitted


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### Approval details



# Relay Module - PLC-RPT- 60DC/21AU - 2900309

## Approvals


cUL Recognized 

cUL Listed 

GL

EAC

RC FRT

cULus Recognized 

cULus Listed 

## Accessories

### Accessories

#### Bridge

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



Continuous plug-in bridge, Length: 500 mm, Color: red

## Relay Module - PLC-RPT- 60DC/21AU - 2900309

### Accessories

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



Continuous plug-in bridge, Length: 500 mm, Color: blue

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



Continuous plug-in bridge, Length: 500 mm, Color: gray

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



Single plug-in bridge, Length: 6 mm, Number of positions: 2, Color: red

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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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## Relay Module - PLC-RPT- 60DC/21AU - 2900309

### Accessories

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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### Controller board

System connection - PLC-V8/FLK14/IN - 2296553



V8L-INPUT adapter for eight 6.2 mm PLC interfaces (1 PDT, etc./see "Supplementary Products"). 14-pos. flat-ribbon cable connection for the PLC system cabling, control logic: Plus switching

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System connection - PLC-V8/FLK14/IN/M - 2304115



V8L-INPUT adapter for eight 6.2 mm PLC interfaces (1 PDT, etc./see "Supplementary Products"). 14-pos. flat-ribbon cable connection for the PLC system cabling, control logic: Minus switching

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System connection - PLC-V8/D15S/IN - 2296074



V8-INPUT adapter for eight 6.2 mm PLC interfaces (1 PDT, etc./see "Additional Products"). 15-pin D-SUB male connector, control logic: Positive switching

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System connection - PLC-V8/D15B/IN - 2296087



V8-INPUT adapter for eight 6.2 mm PLC interfaces (1 PDT, etc./see "Additional Products"). 15-pin D-SUB female connector, control logic: Positive switching

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## Relay Module - PLC-RPT- 60DC/21AU - 2900309

### Accessories

#### DIN rail

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



DIN rail, unperforated, Width: 35 mm, Height: 7.5 mm, Length: 2000 mm, Color: silver

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



DIN rail, material: steel galvanized and passivated with a thick layer, perforated, height 7.5 mm, width 35 mm, length: 2000 mm

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



DIN rail, material: Copper, unperforated, height 7.5 mm, width 35 mm, length: 2 m

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



DIN rail, material: Steel, unperforated, height 15 mm, width 35 mm, length: 2 m

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



DIN rail, material: Copper, unperforated, 1.5 mm thick, height 15 mm, width 35 mm, length: 2 m

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## Relay Module - PLC-RPT- 60DC/21AU - 2900309

### Accessories

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



DIN rail, material: Steel, unperforated, 2.3 mm thick, height 15 mm, width 35 mm, length: 2 m

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



DIN rail, deep drawn, high profile, unperforated, 1.5 mm thick, material: aluminum, height 15 mm, width 35 mm, length 2000 mm

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



DIN rail, material: steel galvanized and passivated with a thick layer, perforated, height 15 mm, width 35 mm, length: 2000 mm

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



DIN rail, material: Steel, unperforated, height 7.5 mm, width 35 mm, length: 2 m

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### Labeled terminal marker

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



Zack marker strip, Strip, white, labeled, can be labeled with: 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: 6.15 x 10.5 mm

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## Relay Module - PLC-RPT- 60DC/21AU - 2900309

### Accessories

#### 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

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#### 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

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#### Screwdriver tools

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: Plotter, Mounting type: Snap into tall marker groove, for terminal block width: 6.2 mm, Lettering field: 6.15 x 10.5 mm

## Relay Module - PLC-RPT- 60DC/21AU - 2900309

### Accessories

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



Zack marker strip, Strip, white, unlabeled, can be labeled with: Plotter, Mounting type: Snap into tall marker groove, for terminal block width: 6.2 mm, Lettering field: 6.15 x 10.5 mm

### Spare parts

Relay socket - PLC-BPT- 60DC/21 - 2900279



6.2 mm PLC basic terminal block with push-in connection, without relay or solid-state relay, for mounting on DIN rail NS 35/7,5, 1 PDT, input voltage 60 V DC

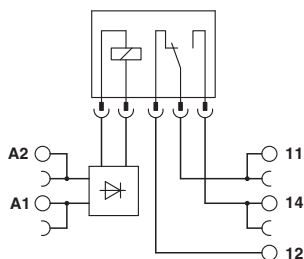
Single relay - REL-MR- 60DC/21AU - 2961134



Plug-in miniature power relay, with multi-layer gold contact, 1 PDT, input voltage 60 V DC

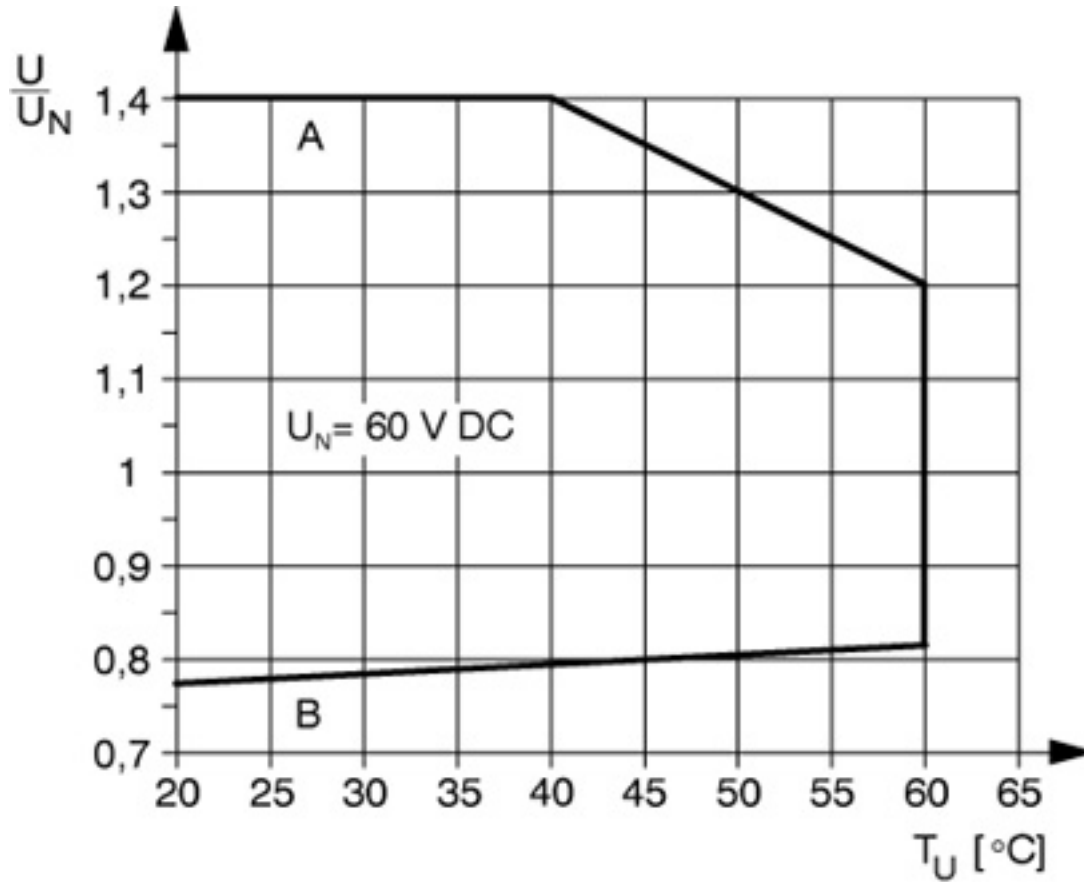
### Drawings

Circuit diagram



# Relay Module - PLC-RPT- 60DC/21AU - 2900309

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  $U_{op}$  after pre-excitation (see relevant technical data)

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