

## Relay Module - PLC-RPT- 72UC/21/RW - 2900319

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PLC-INTERFACE for railway applications, consisting of basic terminal block with push-in connection and plug-in miniature relay with power 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 72 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
- ✓ Temperature range from  $-40^\circ\text{C}$  to  $+70^\circ\text{C}$  ( $+85^\circ\text{C}$  briefly)
- ✓ Input voltage range of  $0.7$  to  $1.25 \times U_N$  ( $1.4 \times U_N$  briefly)
- ✓ Spring-cage and Push-in connection technology



### Key Commercial Data

|                                      |   |
|--------------------------------------|---|
| Packing unit                         | 1 pc  |
| GTIN                                 | <br>4 046356 507417 |
| GTIN                                 | 4046356507417   |
| Weight per Piece (excluding packing) | 34.000 g  |
| Custom tariff number                 | 85364900  |
| Country of origin                    | Germany   |

### Technical data

#### Note

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

#### Dimensions

# Relay Module - PLC-RPT- 72UC/21/RW - 2900319

## Technical data

### Dimensions

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

### Ambient conditions

|   |   |
|---|---|
| Ambient temperature (operation)         | -40 °C ... 70 °C (Temperature class TX) |
| Ambient temperature (storage/transport) | -40 °C ... 85 °C                        |
| Degree of protection                    | RT III (Relay)                          |
|   | IP20 (Relay base)                       |

### Coil side

|   |                                   |
|---|-----------------------------------|
| Nominal input voltage $U_N$             | 72 V DC                           |
| Typical input current at $U_N$          | 3 mA                              |
| Typical response time                   | 4 ms                              |
| Typical release time                    | 4 ms                              |
| Coil voltage                            | 48 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   |
| 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             | 5 V (at 100 mA)   |
| Min. switching current                | 10 mA (at 12 V)   |
| Maximum inrush current                | 10 A (4 s)  |
| Limiting continuous current           | 6 A   |
| 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

|                    |                        |
|--------------------|------------------------|
|                    | 40 W (at 220 V DC)     |
|                    | 1500 VA (for 250 V AC) |
| 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))    |

### 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           |

### Connection data

|                                  |  |
|----------------------------------|--|
| 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>                 |
|                                  | 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  |

### Connection data 2

|                                  |  |
|----------------------------------|--|
| 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>                 |
|                                  | 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  |

### Standards and Regulations

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

## Relay Module - PLC-RPT- 72UC/21/RW - 2900319

### Technical data

#### Standards and Regulations

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

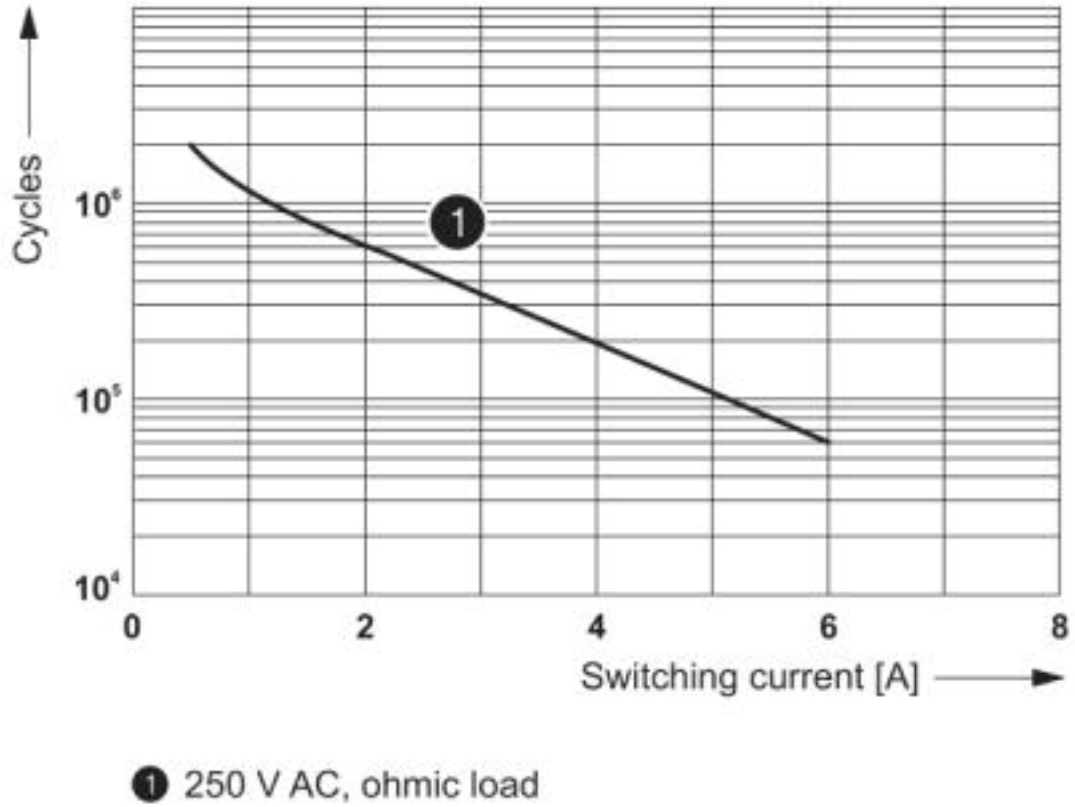
#### Environmental Product Compliance

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

# Relay Module - PLC-RPT- 72UC/21/RW - 2900319

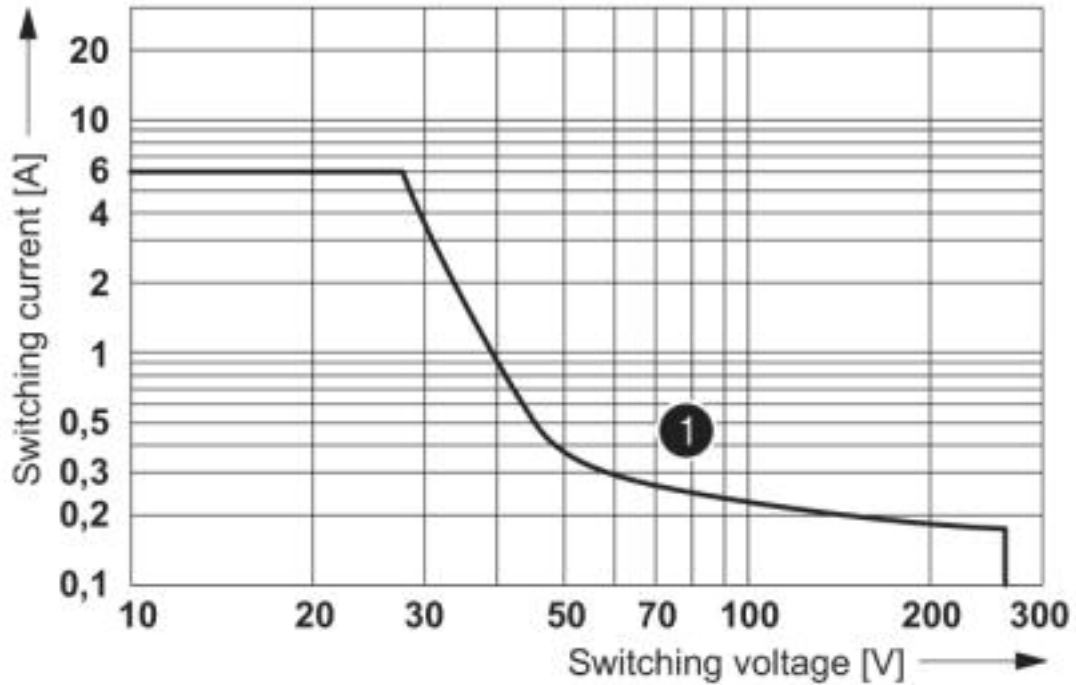
Diagram



Electrical service life

# Relay Module - PLC-RPT- 72UC/21/RW - 2900319

Diagram

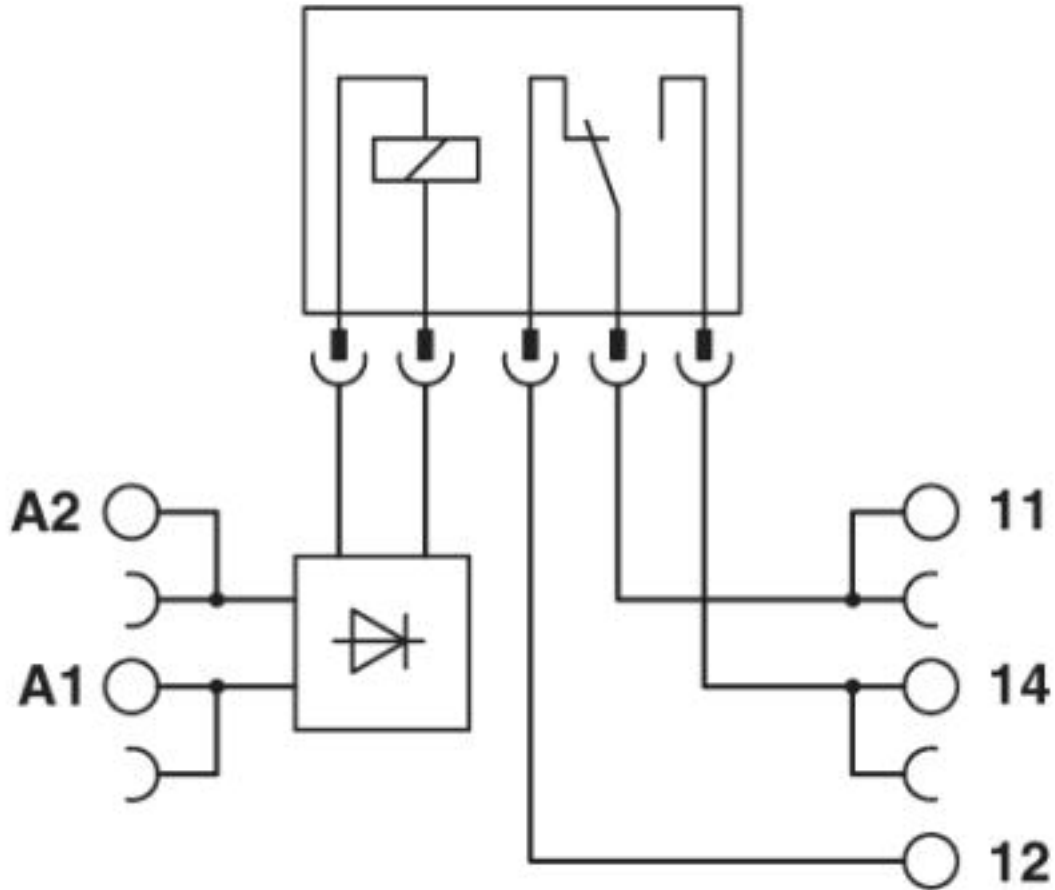


① ohmic load

DC interrupting rating

# Relay Module - PLC-RPT- 72UC/21/RW - 2900319

Circuit diagram



## Classifications

eCl@ss

|               |          |
|---------------|----------|
| eCl@ss 10.0.1 | 27371601 |
| eCl@ss 4.0    | 27371000 |
| eCl@ss 4.1    | 27371000 |
| eCl@ss 5.0    | 27371600 |
| 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 |

# Relay Module - PLC-RPT- 72UC/21/RW - 2900319

## Classifications

### 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 |

### UNSPSC

|               |          |
|---------------|----------|
| UNSPSC 6.01   | 30211916 |
| UNSPSC 7.0901 | 39121515 |
| UNSPSC 11     | 39121515 |
| UNSPSC 12.01  | 39121515 |
| UNSPSC 13.2   | 39122334 |
| UNSPSC 18.0   | 39122334 |
| UNSPSC 19.0   | 39122334 |
| UNSPSC 20.0   | 39122334 |
| UNSPSC 21.0   | 39122334 |

## Approvals

### Approvals

#### Approvals

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

#### Ex Approvals

### Approval details

|        |   |   |               |
|--------|---|---|---------------|
| DNV GL |  | <a href="https://approvalfinder.dnvgl.com/">https://approvalfinder.dnvgl.com/</a> | TAE0000196-03 |
|--------|---|---|---------------|

|           |   |   |               |
|-----------|---|---|---------------|
| UL Listed |  | <a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a> | FILE E 172140 |
|-----------|---|---|---------------|

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## Approvals

|               |  |   |               |
|---------------|--|---|---------------|
| UL Recognized |  | <a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a> | FILE E 238705 |
|---------------|--|---|---------------|

|                |  |   |               |
|----------------|--|---|---------------|
| cUL Recognized |  | <a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a> | FILE E 238705 |
|----------------|--|---|---------------|

|            |  |   |               |
|------------|--|---|---------------|
| cUL Listed |  | <a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a> | FILE E 172140 |
|------------|--|---|---------------|

|        |  |  |         |
|--------|--|--|---------|
| RC FRT |  |  | B.00094 |
|--------|--|--|---------|

|     |  |  |                 |
|-----|--|--|-----------------|
| EAC |  |  | TR_TS_D_00573_c |
|-----|--|--|-----------------|

|     |  |  |                         |
|-----|--|--|-------------------------|
| EAC |  |  | RU*C-<br>DE.*08.B.00010 |
|-----|--|--|-------------------------|

|                  |  |  |  |
|------------------|--|--|--|
| cULus Recognized |  |  |  |
|------------------|--|--|--|

|              |  |  |  |
|--------------|--|--|--|
| cULus Listed |  |  |  |
|--------------|--|--|--|

## Accessories

Accessories

Bridge

## Relay Module - PLC-RPT- 72UC/21/RW - 2900319

### Accessories

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



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

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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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## Relay Module - PLC-RPT- 72UC/21/RW - 2900319

### Accessories

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

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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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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

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## Relay Module - PLC-RPT- 72UC/21/RW - 2900319

### Accessories

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

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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

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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

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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

---

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

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## Relay Module - PLC-RPT- 72UC/21/RW - 2900319

### Accessories

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

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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: 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

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### 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

## Relay Module - PLC-RPT- 72UC/21/RW - 2900319

### 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

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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

## Relay Module - PLC-RPT- 72UC/21/RW - 2900319

### Accessories

#### Spare parts

Single relay - REL-MR- 48DC/21 - 2961231



Plug-in miniature relay, with power contact, 1 PDT, 48 V DC input voltage