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# Solid-state relay module - PLC-OSC- 24DC/300DC/ 1 - 2980678

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PLC-INTERFACE, integrated solid-state relay, with screw connection, for mounting on NS 35/7,5 DIN rails, input: 24 V DC, output: 12 - 300 V DC/1 A

## Why buy this product

☑ Wear-free switching with no contact bounce

☑ Resistant to vibrations and shocks

☑ Protective circuit in input and output

☑ Status indicator

☑ DC voltage outputs up to 300 V DC/1 A

☑ Option of bridging adjacent modules

## Key Commercial Data

| Packing unit | 10 STK |
|---|---|
| GTIN | |
| GTIN | 4046356051415 |
| Weight per Piece (excluding packing) | 36.530 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

| Width | 6.2 mm |
|---|---|
| Height | 80 mm |
| Depth | 86 mm |

### Ambient conditions

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## Technical data

### Ambient conditions

| | |
|---|---|
| Ambient temperature (operation) | -25 °C ... 60 °C |
| Ambient temperature (storage/transport) | -40 °C ... 85 °C |

### Input data

| | |
|---|---|
| Nominal input voltage $U_N$ | 24 V DC |
| Input voltage range in reference to $U_N$ | 0.8 ... 1.2 |
| Input voltage range | 19.2 V DC ... 28.8 V DC |
| Switching threshold "0" signal in reference to $U_N$ | $\leq 0.4$ |
| Switching threshold "1" signal in reference to $U_N$ | $\geq 0.8$ |
| Typical input current at $U_N$ | 8 mA |
| Typical response time | 0.3 ms |
| Typical turn-off time | 0.7 ms |
| Operating voltage display | Yellow LED |
| Type of protection | Reverse polarity protection |
| | Surge protection |
| Protective circuit/component | Polarity protection diode |
| | Varistor |
| Transmission frequency | 50 Hz |
| Power dissipation for nominal condition | 0.19 W |

### Output data

| Designation | Output data |
|---|---|
| Output voltage range | 12 V DC ... 300 V DC (Partition 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...) |
| Limiting continuous current | 1 A (see derating curve) |
| Voltage drop at max. limiting continuous current | < 500 mV |
| Type of protection | Reverse polarity protection |
| | Surge protection |
| Protective circuit/component | Polarity protection diode |
| | Varistor |

### Connection data, input side

| | |
|---|---|
| Connection name | Input side |
| Connection method | Screw connection |
| Stripping length | 8 mm |
| Screw thread | M3 |
| Conductor cross section solid | 0.14 mm² ... 2.5 mm² |
| Conductor cross section flexible | 0.14 mm² ... 2.5 mm² |
| Conductor cross section AWG | 26 ... 14 |

### Connection data, output side

| | |
|---|---|
| Connection name | Output side |

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## Technical data

### Connection data, output side

| Connection method | Screw connection |
|---|---|
| Stripping length | 8 mm |
| Screw thread | M3 |
| Conductor cross section solid | 0.14 mm² ... 2.5 mm² |
| Conductor cross section flexible | 0.14 mm² ... 2.5 mm² |
| Conductor cross section AWG | 26 ... 14 |

### General

| Mounting position | any |
|---|---|
| Assembly instructions | In rows with zero spacing |
| Operating mode | 100% operating factor |
| Flammability rating according to UL 94 | V0 |
| Designation | Standards/regulations |
| Standards/regulations | IEC 60664 |
| | EN 50178 |
| Degree of pollution | 2 |
| Overvoltage category | III |

### Standards and Regulations

| Connection in acc. with standard | CUL |
|---|---|
| Designation | Standards/regulations |
| Standards/regulations | IEC 60664 |
| | EN 50178 |
| Rated insulation voltage | 300 V |
| Rated surge voltage | 2.5 kV |
| Insulation | Basic insulation |
| Degree of pollution | 2 |
| Overvoltage category | III |
| Flammability rating according to UL 94 | V0 |

### Environmental Product Compliance

| China RoHS | Environmentally Friendly Use Period = 50 |
|---|---|
| | For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration" |

## Drawings

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# Solid-state relay module - PLC-OSC- 24DC/300DC/ 1 - 2980678

Diagram

Circuit diagram



❶ For input voltages 220 V DC and 230 V AC
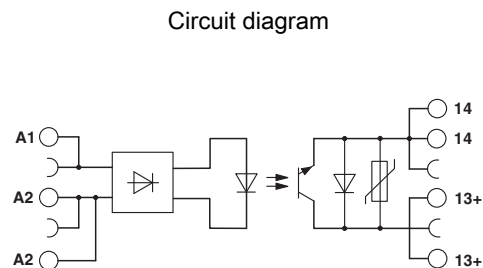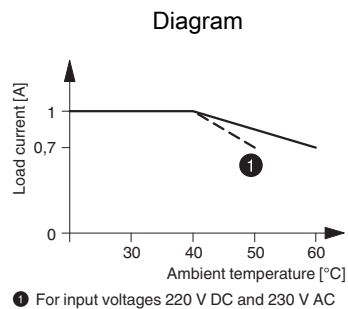
The figure shows the derating curve for PLC-...300DC/1

## Classifications

### eCl@ss

| eCl@ss 5.0 | 27371001 |
|---|---|
| eCl@ss 5.1 | 27371001 |
| eCl@ss 6.0 | 27371604 |
| eCl@ss 7.0 | 27371604 |
| eCl@ss 8.0 | 27371604 |
| eCl@ss 9.0 | 27371604 |

### ETIM

| ETIM 2.0 | EC001504 |
|---|---|
| ETIM 3.0 | EC001504 |
| ETIM 4.0 | EC001504 |
| ETIM 5.0 | EC001504 |
| ETIM 6.0 | EC001504 |

### UNSPSC

| UNSPSC 6.01 | 30211916 |
|---|---|
| UNSPSC 7.0901 | 39121542 |
| UNSPSC 11 | 39121542 |
| UNSPSC 12.01 | 39121542 |
| UNSPSC 13.2 | 39122326 |

## Approvals

### Approvals

Approvals

UL Listed / cUL Listed / GL / UL Recognized / cUL Recognized / EAC / EAC / PRS / cULus Recognized / cULus Listed

Ex Approvals

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## Approvals

Approval details

| UL Listed | | http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm | FILE E 172140 |
|---|---|---|---|

| cUL Listed | | http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm | FILE E 172140 |
|---|---|---|---|

| GL | | http://exchange.dnv.com/tari/ | 46016-03 HH |
|---|---|---|---|

| UL Recognized | | http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm | FILE E 238705 |
|---|---|---|---|

| cUL Recognized | | http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm | FILE E 238705 |
|---|---|---|---|

| EAC | | | RU C-DE.A*30.B.01082 |
|---|---|---|---|

| EAC | | | EAC-Zulassung |
|---|---|---|---|

| PRS | | http://www.prs.pl/ | TE/2109/880590/16 |
|---|---|---|---|

| cULus Recognized | | http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm | |
|---|---|---|---|

| cULus Listed |
|---|

## Accessories

Accessories

# Solid-state relay module - PLC-OSC- 24DC/300DC/ 1 - 2980678

## 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

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

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

# Solid-state relay module - PLC-OSC- 24DC/300DC/ 1 - 2980678

## Accessories

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

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

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

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

Single plug-in bridge - FBST 14-PLC BK - 2967691

Single plug-in bridge, length: 14 mm, number of positions: 2, color: black

## Controller board

System connection - PLC-V8/FLK14/OUT - 2295554

V8 adapter for 8 x PLC-INTERFACE (6.2 mm); Controller: PLC system cabling of output cards; connection 1: Plug connection; connection 2: 1x IDC/FLK pin strip (14-position); number of channels: 8; control logic: positive switching

System connection - PLC-V8/FLK14/OUT/M - 2304102

V8 adapter for 8 x PLC-INTERFACE (6.2 mm); Controller: PLC system cabling of output cards; connection 1: Plug connection; connection 2: 1x IDC/FLK pin strip (14-position); number of channels: 8; control logic: negative switching

# Solid-state relay module - PLC-OSC- 24DC/300DC/ 1 - 2980678

## Accessories

System connection - PLC-V8/D15S/OUT - 2296058

V8 adapter for 8 x PLC-INTERFACE (6.2 mm); Controller: PLC system cabling of output cards; connection 1: Plug connection; connection 2: 1x D-SUB pin strip (15-position); number of channels: 8; control logic: positive switching

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System connection - PLC-V8/D15B/OUT - 2296061

V8 adapter for 8 x PLC-INTERFACE (6.2 mm); Controller: PLC system cabling of output cards; connection 1: Plug connection; connection 2: 1x D-SUB socket strip (15-position); number of channels: 8; control logic: positive switching

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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, in acc. with EN 60715: 2001, 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, in acc. with EN 60715: 2001, 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, in acc. with EN 60715: 2001, material: Copper, uncoated, length: 2000 mm, color: copper-colored

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

DIN rail, unperforated, Standard profile, width: 35 mm, height: 15 mm, similar to EN 60715: 2001, material: Steel, galvanized, passivated with a thick layer, length: 2000 mm, color: silver

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# Solid-state relay module - PLC-OSC- 24DC/300DC/ 1 - 2980678

## Accessories

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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: 2001, 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, in acc. with EN 60715: 2001, 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: 2001, material: Aluminum, uncoated, length: 2000 mm, color: silver

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

DIN rail perforated, Standard profile, width: 35 mm, height: 15 mm, similar to EN 60715: 2001, material: Steel, galvanized, passivated with a thick layer, length: 2000 mm, color: silver

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

DIN rail, unperforated, Standard profile, width: 35 mm, height: 7.5 mm, in acc. with EN 60715: 2001, material: Steel, galvanized, passivated with a thick layer, length: 2000 mm, color: silver

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Partition plate

# Solid-state relay module - PLC-OSC- 24DC/300DC/ 1 - 2980678

## Accessories

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

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