

# PLC-OS.../300DC/1

## PLC INTERFACE With Integrated Solid-State Relay

### INTERFACE

Data Sheet  
102491\_en\_04

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### 1 Description

The 6.2 mm **PLC-OS.../300DC/1** PLC INTERFACE module with screw or spring-cage connection has an integrated solid-state relay.

#### 1.1 Input Voltages From 5 V to 230 V

PLC-OS.../300DC/1 is available on the control side in all common industrial voltages from 5 V to 230 V. A further advantage is the ready-integrated input circuit. It consists of a status indicator and polarity reversal protection function, and ensures that the operating state is displayed clearly, also preventing destruction of the optical electronics should the polarity be accidentally reversed.

#### 1.2 Plug-In Bridges Save Wiring

The PLC INTERFACE module achieves maximum efficiency with the user-friendly FBST plug-in bridge system. PLC-OS.../300DC/1 makes effective use of the bridging options for the A1/A2 connection on the control side and for the supply at connection 13 on the load side. Especially efficient here are the 500 mm long color-insulated continuous plug-in bridges that can easily be cut to the required length and quickly inserted in the bridge shafts. They eliminate the need for complicated and time-consuming loop bridges.

#### 1.3 Additional Advantages

- Switching power of up to 300 V DC/1 A
- Wear-resistant switching
- Integrated protective circuit
- Resistant to vibrations and shocks
- 4 kV<sub>rms</sub> electrical isolation between input and output



Make sure you always use the latest documentation.  
It can be downloaded at [www.phoenixcontact.net/download](http://www.phoenixcontact.net/download).



This data sheet is valid for all products listed on the following page:

## 2 Ordering Data

### PLC INTERFACE With Screw Connection, Housing Open on One Side

Description	Type	Order No.	Pcs./Pck.
PLC INTERFACE with integrated solid-state relay 5 V DC	PLC-OSC-5DC/300DC/1	2980652	10
PLC INTERFACE with integrated solid-state relay 12 V DC	PLC-OSC-12DC/300DC/1	2980665	10
PLC INTERFACE with integrated solid-state relay 24 V DC	PLC-OSC-24DC/300DC/1	2980678	10
PLC INTERFACE with integrated solid-state relay 48 V DC ... 60 V DC	PLC-OSC-60DC/300DC/1	2980681	10
PLC INTERFACE with integrated solid-state relay 110 V DC	PLC-OSC-110DC/300DC/1	2980694	10
PLC INTERFACE with integrated solid-state relay 125 V DC	PLC-OSC-125DC/300DC/1	2982210	10
PLC INTERFACE with integrated solid-state relay 220 V DC	PLC-OSC-220DC/300DC/1	2980704	10
PLC INTERFACE with integrated solid-state relay 120 V AC	PLC-OSC-120AC/300DC/1	2980717	10
PLC INTERFACE with integrated solid-state relay 230 V AC <sup>1</sup>	PLC-OSC-230AC/300DC/1	2980720	10

### PLC INTERFACE With Spring-Cage Connection, Housing Open on One Side

Description	Type	Order No.	Pcs./Pck.
PLC INTERFACE with integrated solid-state relay 5 V DC	PLC-OSP-5DC/300DC/1	2980814	10
PLC INTERFACE with integrated solid-state relay 12 V DC	PLC-OSP-12DC/300DC/1	2980827	10
PLC INTERFACE with integrated solid-state relay 24 V DC	PLC-OSP-24DC/300DC/1	2980830	10
PLC INTERFACE with integrated solid-state relay 48 V DC ... 60 V DC	PLC-OSP-60DC/300DC/1	2980843	10
PLC INTERFACE with integrated solid-state relay 110 V DC	PLC-OSP-110DC/300DC/1	2980856	10
PLC INTERFACE with integrated solid-state relay 125 V DC	PLC-OSP-125DC/300DC/1	2982223	10
PLC INTERFACE with integrated solid-state relay 220 V DC	PLC-OSP-220DC/300DC/1	2980869	10
PLC INTERFACE with integrated solid-state relay 120 V AC	PLC-OSP-120AC/300DC/1	2980872	10
PLC INTERFACE with integrated solid-state relay 230 V AC <sup>1</sup>	PLC-OSP-230AC/300DC/1	2980885	10

<sup>1</sup> The PLC-ATP BK insulating plate must be installed for voltages greater than 250 V (L1, L2, L3) between the same terminal points on adjacent modules (see "Accessories"). FBST 8-PLC... or FBST 500... is then used for potential bridging.



For the protection of input and output, inductive loads must be dampened with an effective protective circuit.

### Accessories

Description	Type	Order No.	Pcs./Pck.
Insulating plate	PLC-ATP BK	2966841	25



The PLC-ATP BK insulating plate should be used in the following cases: always fit at the start and end of a PLC terminal strip for voltages greater than 250 V (L1, L2, L3) between the same terminal points on adjacent modules (FBST 8-PLC... or FBST 500... can be used for potential bridging) and for safe isolation between adjacent modules.

For additional accessories such as power terminal blocks and plug-in bridges, please refer to the INTERFACE catalog or [www.phoenixcontact.com](http://www.phoenixcontact.com).

### 3 Technical Data

Input Data	DC								AC	
Nominal input voltage <sup>1</sup>	5 V DC	12 V DC	24 V DC	48 ... 60 V DC	110 V DC	125 V DC	220 V DC	120 V AC	230 V AC	
Permissible range (with reference to $U_N$ )	0.8 ... 1.2 x $U_N$								0.8 ... 1.1 x $U_N$	
Switching level										
1 signal ("H")	$\geq 0.8 \times U_N$								$\geq 0.8 \times U_N$	
0 signal ("L")	$\leq 0.4 \times U_N$								$\leq 0.4 \times U_N$	
Typical input current at $U_N$	5 mA	6 mA	8 mA	5 mA	5 mA	6 mA	3 mA	3 mA	3 mA	
Typical response time at $U_N$	800 $\mu$ s	300 $\mu$ s	300 $\mu$ s	300 $\mu$ s	400 $\mu$ s	400 $\mu$ s	400 $\mu$ s	19 ms	19 ms	
Typical release time at $U_N$	1.5 ms	800 $\mu$ s	700 $\mu$ s	700 $\mu$ s	700 $\mu$ s	700 $\mu$ s	1.4 ms	6 ms	6 ms	
Transmission frequency $f_{limit}$	50 Hz								50 Hz	
Input circuit	Yellow LED, polarity protection, surge protection								Yellow LED, surge protection, bridge rectifier	

<sup>1</sup> The PLC-ATP BK insulating plate must be installed for voltages greater than 250 V (L1, L2, L3) between the same terminal points on adjacent modules (see "Accessories"). FBST 8-PLC... or FBST 500... is then used for potential bridging.

Output Data	
Nominal output voltage range <sup>1</sup>	12 V DC ... 300 V DC
Limiting continuous current	1 A (see "Derating Curve" on page 4)
Output configuration	2-wire floating
Output circuit	Protection against polarity reversal, surge protection
Voltage drop at maximum limiting continuous current	< 500 mV

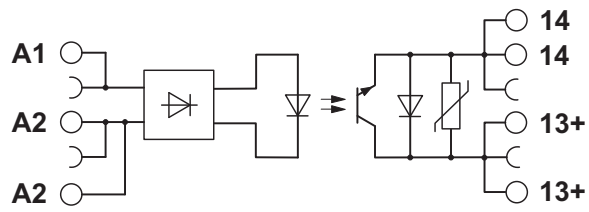
<sup>1</sup> The PLC-ATP BK insulating plate must be installed for voltages greater than 250 V (L1, L2, L3) between the same terminal points on adjacent modules (see "Accessories"). FBST 8-PLC... or FBST 500... is then used for potential bridging.

General Data	
Rated insulation voltage	300 V
Impulse voltage withstand level	4 kV, 50 Hz, 1 minute
Ambient temperature range	-20°C ... 60°C
Nominal operating mode	100% operating factor
Inflammability class according to UL 94 (housing)	V0
Air and creepage distances between the circuits <sup>1</sup>	DIN EN 50178 (basic insulation)
Pollution degree	2
Surge voltage category	III
Mounting position	Any
Assembly	Can be aligned without spacing
Conductor cross section	
Screw connection	0.14 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Spring-cage connection	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Stripping length	8 mm
Dimensions (W x H x D)	6.2 mm x 86 mm x 80 mm
Housing material	Polybutylene terephthalate PBT non-reinforced, green

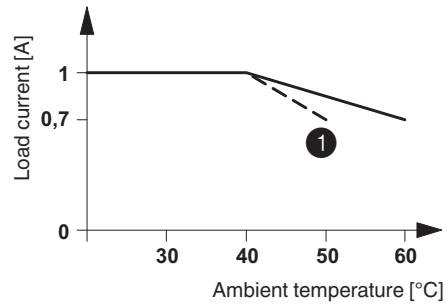
<sup>1</sup> The PLC-ATP BK insulating plate must be installed for safe isolation between adjacent modules (see "Accessories"). FBST 8-PLC... or FBST 500... is then used for potential bridging.

Tests/Approvals	
CE	CE
UL	Applied for
CUL	Applied for
GL	Applied for

#### 4 Block Diagram



#### 5 Derating Curve



❶ For input voltages of 220 V DC and 230 V AC

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### Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: [info@moschip.ru](mailto:info@moschip.ru)

Skype отдела продаж:

moschip.ru

moschip.ru\_4

moschip.ru\_6

moschip.ru\_9