

# PLC-RS...- 24DC/1/ACT

## PLC INTERFACE With Relay, Actuator Version

### INTERFACE

Data Sheet  
103149\_en\_01

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## 1 Description

In applications as the interface between the PLC and actuators (e.g., motors, contactors or solenoid valves), as a rule only one N/O contact is required. In this case, the **PLC-RS...- 24DC/1/ACT** output module can be used, which is specially optimized for these applications and consists of a 6.2 mm basic terminal block and plug-in miniature relay with screw or spring-cage connection.

### 1.1 No Need for Output Terminal Blocks

Unlike conventional coupling relays, all actuator connections, including the load return line, are connected directly to the PLC INTERFACE module. The PLC-RS...- 24DC/1/ACT can thus be used directly as an output terminal strip with integrated interface function for the outgoing actuator cables, without the need for additional modular terminal blocks (see also INTERFACE catalog).

- Elimination of two output terminal blocks for switching and load return lines
- Space savings of around 80%
- Time saving of around 60%
- Reduction in wiring due to plug-in bridges

### 1.2 Optimum Use of Plug-In Bridges

The PLC INTERFACE module achieves maximum efficiency with the user-friendly FBST plug-in bridge system. The PLC-RS...- 24DC/1/ACT makes effective use of the bridging options for the A1/A2 connection on the coil side, for the load supply at connection 13 on the contact side, and for the load return line. Especially effective 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 – the reduction in wiring by eliminating the need for modular terminal blocks and the use of all bridging options is around 60%.

### 1.3 Additional Advantages

- Operational safety with RT III (IP67)-protected mechanics
- Environmentally friendly, cadmium-free power contact material for loads up to 250 V AC/6 A
- Available with gold coating for low power levels (mA) as an option
- Integrated input circuit
- Relay can be replaced using an engagement lever
- Safe isolation according to DIN EN 50178
- Inflammability class V0 according to UL94



Make sure you always use the latest documentation.  
It can be downloaded at [www.download.phoenixcontact.com](http://www.download.phoenixcontact.com).  
A conversion table is available on the Internet at  
[www.download.phoenixcontact.com/general/7000\\_en\\_00.pdf](http://www.download.phoenixcontact.com/general/7000_en_00.pdf).



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

## 2 Ordering Data

### PLC INTERFACE With Power Contact Relay, Actuator Version

| Description                                                                                                                                                                                                                                      | Type                        | Order No. | Pcs./Pck. |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|-----------|-----------|
| PLC INTERFACE, comprising PLC-BSC...ACT basic terminal block and plug-in miniature relay (see INTERFACE catalog), with screw connection, for mounting on        | 24 V DC PLC-RSC- 24DC/1/ACT | 2966210   | 10        |
| PLC INTERFACE, comprising PLC-BSP...ACT basic terminal block and plug-in miniature relay (see INTERFACE catalog), with spring-cage connection, for mounting on  | 24 V DC PLC-RSP- 24DC/1/ACT | 2967345   | 10        |



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                                   |                                                                       |
|----------------------------------------------|-----------------------------------------------------------------------|
| Nominal input voltage                        | 24 V DC                                                               |
| Permissible range (with reference to $U_N$ ) | See "Derating Curve" on page 4                                        |
| Typical input current at $U_N$               | 9 mA                                                                  |
| Typical response time at $U_N$               | 4 ms                                                                  |
| Typical release time at $U_N$                | 8 ms                                                                  |
| Input circuit                                | Yellow LED, protection against polarity reversal, free-wheeling diode |

| Output Data                 |                               |
|-----------------------------|-------------------------------|
| Contact type                | Single contact, 1 N/O contact |
| Contact material            | AgSnO                         |
| Maximum switching voltage   | 250 V AC/DC <sup>1</sup>      |
| Minimum switching voltage   | 12 V AC/DC                    |
| Limiting continuous current | 6 A                           |
| Maximum inrush current      | 30 A (for AC 15 operation)    |
| Minimum switching current   | 10 mA                         |
| Maximum shutdown power      | Ohmic load $\tau = 0$ ms      |
|                             | 24 V DC 140 W                 |
|                             | 48 V DC 20 W                  |
|                             | 60 V DC 18 W                  |
|                             | 110 V DC 23 W                 |
|                             | 220 V DC 40 W                 |
|                             | 250 V AC 1500 VA              |
| Minimum switching power     | 120 mW                        |

<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

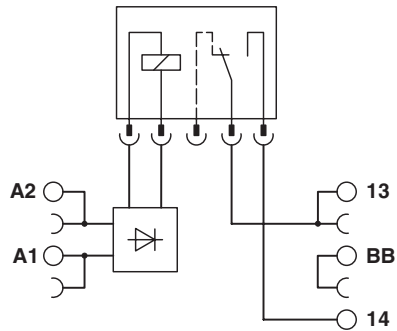
|                                                              |                                                                                         |
|--------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| Impulse voltage withstand level                              | 4 kV, 50 Hz, 1 min.                                                                     |
| Ambient temperature range                                    |                                                                                         |
| Operation                                                    | -25°C ... 60°C                                                                          |
| Storage/transport                                            | -40°C ... 85°C                                                                          |
| Nominal operating mode                                       | 100% operating factor                                                                   |
| Inflammability class according to UL 94 (housing)            | V0                                                                                      |
| Mechanical service life                                      | 2 x 10 <sup>7</sup> cycles                                                              |
| Air and creepage distances between the circuits <sup>1</sup> | IEC 60664, IEC 60664 A, DIN VDE 0110, DIN EN 50178/VDE 0106-160, IEC 60255/DIN VDE 0435 |
| Pollution degree                                             | 3                                                                                       |
| Surge voltage category                                       | III                                                                                     |
| Mounting position                                            | Any                                                                                     |
| Mounting                                                     | Can be aligned without spacing                                                          |
| Conductor cross-section                                      |                                                                                         |
| Solid, with screw connection                                 | 0.14 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> (26 - 14 AWG)                              |
| Stranded, with screw connection                              | 0.14 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> (26 - 14 AWG)                              |
| Solid, with spring-cage connection                           | 0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> (24 - 14 AWG)                               |
| Stranded, with spring-cage connection                        | 0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> (24 - 14 AWG)                               |
| Stripping length                                             |                                                                                         |
| Screw connection                                             | 10 mm                                                                                   |
| Spring-cage connection                                       | 8 mm                                                                                    |
| Dimensions (W x H x D)                                       | 6.2 mm x 94 mm x 80 mm                                                                  |
| Housing material                                             | Polyamide PA, 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.

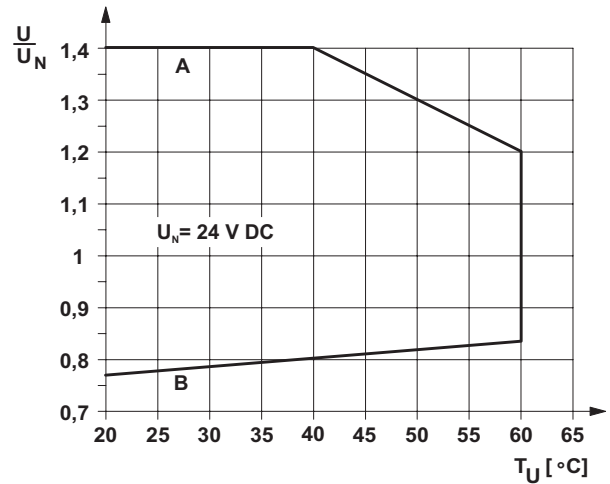
## Tests/Approvals

|    |                                                                                     |
|----|-------------------------------------------------------------------------------------|
| CE |  |
| UL |  |
| GL |  |

## 4 Block Diagram



## 5 Derating Curve



### General Conditions

Direct alignment in the block, all devices 100% operating factor, horizontal or vertical mounting.

### Curve A

Maximum permissible continuous voltage  $U_{\max}$  with limiting continuous current on the contact side

### Curve B

Minimum permissible operate voltage  $U_{\text{op}}$  following pre-excitation



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Электрон  
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