PLC-RS…- 24DC/1/ACT

**PLC INTERFACE With Relay,
Actuator Version**

INTERFACE

Data Sheet
103149_en_01
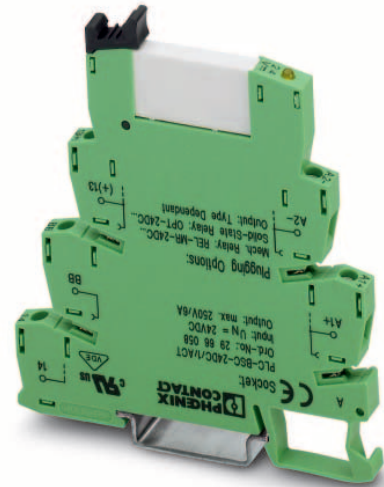
1   Description

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

ℹ️ Make sure you always use the latest documentation.
It can be downloaded at www.download.phoenixcontact.com.

A conversion table is available on the Internet at
www.download.phoenixcontact.com/general/7000_en_00.pdf.

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

PHŒNIX CONTACT

INSPIRING INNOVATIONS

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

> **i** 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

> **i** 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.

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[1]
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

[1] 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	2×10^7 cycles
Air and creepage distances between the circuits[1]	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	$0.14 \text{ mm}^2 ... 2.5 \text{ mm}^2$ (26 - 14 AWG)
Stranded, with screw connection	$0.14 \text{ mm}^2 ... 1.5 \text{ mm}^2$ (26 - 14 AWG)
Solid, with spring-cage connection	$0.2 \text{ mm}^2 ... 2.5 \text{ mm}^2$ (24 - 14 AWG)
Stranded, with spring-cage connection	$0.2 \text{ mm}^2 ... 1.5 \text{ mm}^2$ (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

[1] 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.
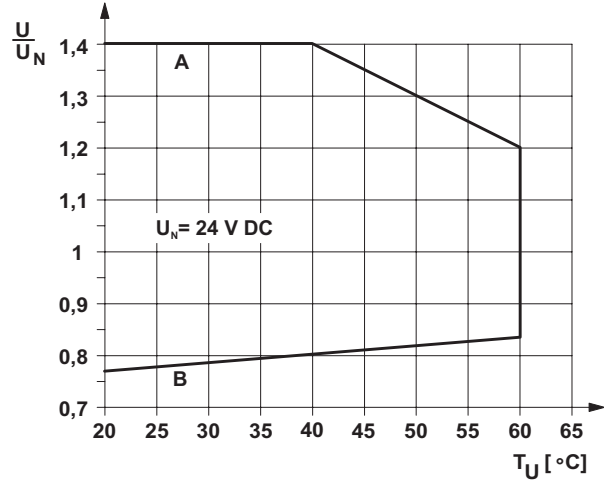
Tests/Approvals

CE	$C\epsilon$
UL	c(UL)us c**ℛ**us
GL	(GL)

4   Block Diagram
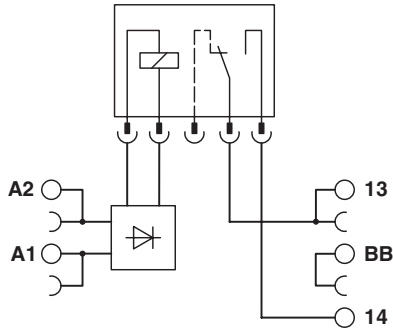
5   Derating Curve

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_{op} following pre-excitation