

Data Sheet

INTERBUS

Remote Bus Switch

Data Sheet Revision A

02/1997

Product Description

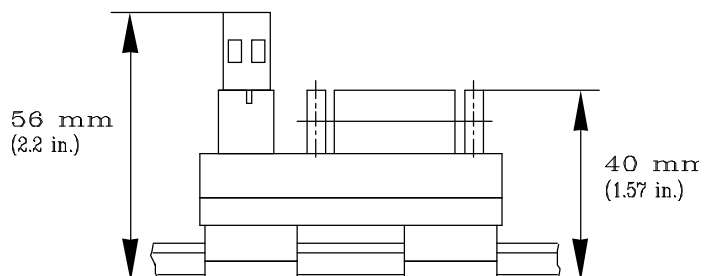
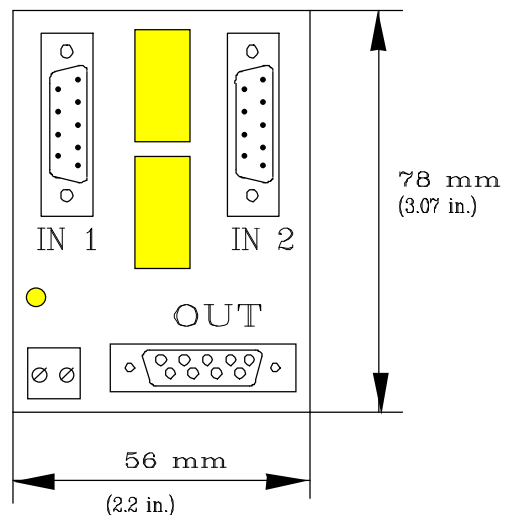
The remote bus switch IBS RBC SWITCH permits to connect a remote bus topology for reasons of device availability with a second, redundant PLC.

Features

- D-SUB 9 remote bus connectors for two incoming remote buses and one outgoing remote bus
- 24 V nominal input voltage
- Pick-up time max. 4 ms
- DIN-rail mounting

Application

- Operation of a bus topology with two controller boards that can be used alternatively



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Figure 1: IBS RBC SWITCH

Example of an Electrical Installation

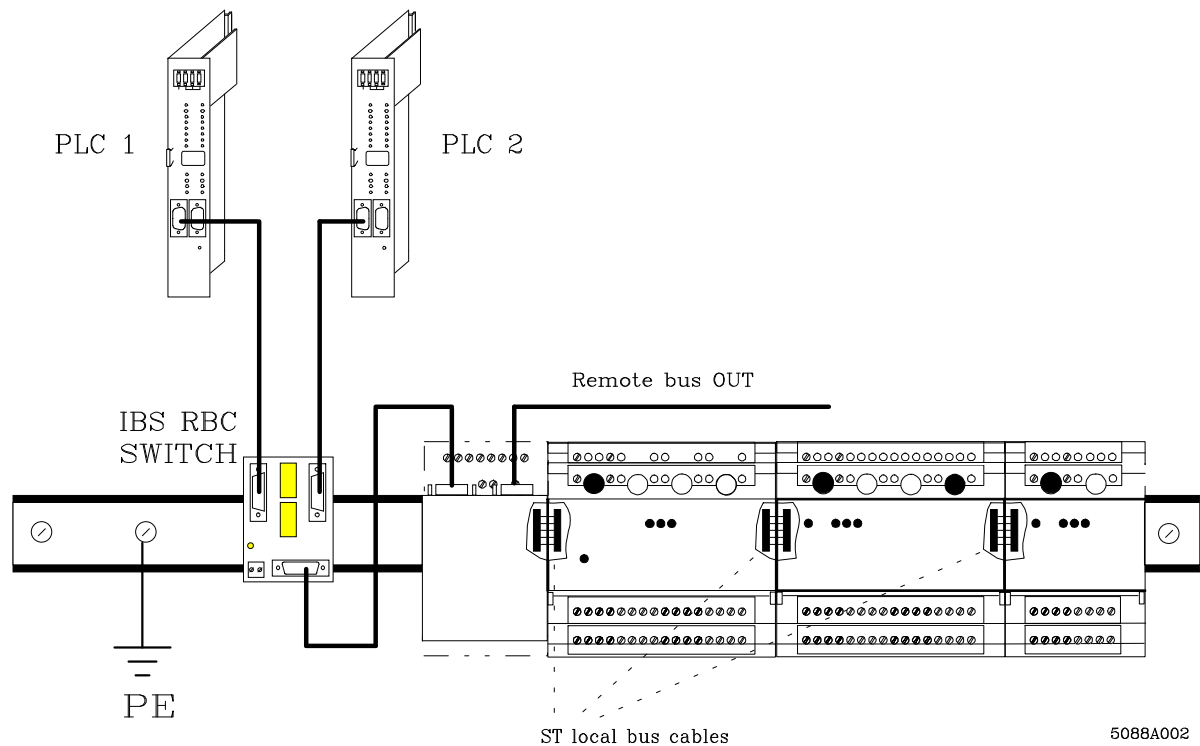


Figure 2:Electrical installation example for the IBS RBC SWITCH within an IB ST compact station.



The length of the remote bus cable must not exceed 400 m for every remote bus segment. The remote bus switch does not start a new remote bus segment.

The switching relays are supplied with a positive coil voltage via terminal A1 and with a negative coil voltage via terminal A2 (see Figure 3). When the coil voltage is applied the remote bus switch switches to the first input (IN 1). In the normal state the remote bus input IN 2 is connected with the remote bus output (OUT).

The connector pin assignments on the input and output side are identical, which means that pin 1 on the input side is connected to pin 1 on the output side etc. (see Table 1).



In order to reduce the installation times of an INTERBUS system as much as possible, Phoenix Contact offers pre-assembled bus cables (see Phoenix Contact Catalog Part 11: INTERBUS). Please refer to the INTERBUS Installation Manual IBS SYS INST UM E (Order No.27 54 80 4) for detailed information on all INTERBUS cable types.

Connection

If the connector is properly installed, the remote bus shielding is continued via the internal electrical connection of the connector housing.

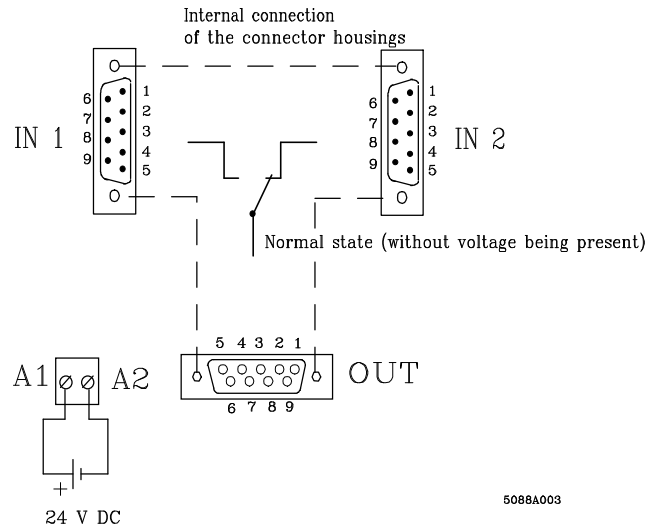


Figure 3: Connector designations of the IBS RBC SWITCH

Table 1: Pin assignment (remote bus cable with D-SUB, 9-pos.)

Signal	Pin (male)	Pin (female)
DO	1	1
DI	2	2
COM	3	3
nc	4	4
nc	5	5
\overline{DO}	6	6
\overline{DI}	7	7
nc	8	8
nc	9	9
Shield	Housing	Housing

Table 2: Ordering data for the IBS RBC SWITCH

Description	Type	Order No.
Remote bus switch (2*IN, 1*OUT)	IBS RBC SWITCH	27 50 02 8
Mounting rail DIN EN 50022, 2 meters	NS 35/7,5 gelocht (perforated)	08 01 68 1
	NS 35/7,5 ungelocht (unperforated)	08 01 73 3

Technical Data

General

Type	IBS RBC SWITCH
Air and creepage distances	VDE 0110 part1, 01/89
Permissible operating temperature	From -20°C to 55°C
Permissible storage temperature	From -40°C to 85°C
Housing dimensions (w*h*d)	56 mm * 78 mm * 56 mm (see Figure 1)

Interfaces

- Two incoming remote buses	D-SUB male connector, 9-pos.
- Outgoing remote bus	D-SUB-female connector, 9-pos.

Switching relay

Type	DS2E-S
Nominal input voltage U_N	24 V
Permissible range	0.8 to 1.1 * U_N
Pick-up voltage at 20 °C	16.8 V
Drop-out voltage at 20 °C	2.4 V
Coil resistance	2880 Ω \pm 10%
Typical current intake	18 mA
Pick-up time (with nominal voltage)	4 ms
Drop-out time (with nominal voltage)	4 ms
Rebounce time (with nominal voltage)	2 ms
Test voltage coil/contact	0.5 kV (60 s; 50 Hz)
Mechanical life (ohmic load, $T_u=20-30$ °C)	10 ⁸ switching operations with 0.1 A and 1 W



High external magnetic fields influence the relay's characteristics.

Local Diagnostic Indicators

Yellow LED	Input voltage	
	On:	Input voltage present. Connection to IN 1 established.
	Off:	In a dead condition the relay switches to the remote bus input IN 2.