BC‑MUX

TCP/IP Remote Control

ZAHNER

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1 Setup

The BC-MUX can be controlled via USB or via LAN with the included software.

For integration without BC-MUX software, to control the Zennium separately via Remote2, it is most convenient to control the BC-MUX via TCP/IP over LAN.

For this purpose, the network interface of the BC-MUX must be configured as described in the BC-MUX manual in section 3.7 on page 19.

2 Remote Control

For the control there are two possibilities, on the one hand via the Python module provided by Zahner or on the other hand via raw socket communication.

2.1 Python

The Python module can be downloaded from the Thales-Remote-Python repository.

https://github.com/Zahner-elektrik/Thales-Remote-Python/blob/master/bc_mux_interface.py

This file contains an example of how each channel of the BC-MUX is selected once.

If the connection to the BC-MUX is established via its IP address, which has been configured beforehand, on port number 4223, then the BC-MUX can be controlled.

For control, essentially only 3 commands are necessary.

2.1.1 setPulseLength(*parameter*)

The BC-MUX supports switchboxes containing monostable or bistable relays. With this command, the control mode of the relays is set.

See section 2.2.1 .

2.1.2 connectChannel(*channel*)

This command connects the channel with the corresponding number to the Zennium. Only one channel can be connected to the Zennium at a time, the channel previously connected to the Zennium will be disconnected.

See section 2.2.2 .

2.1.3 disconnectChannel()

This command disconnects the active channel from the Zennium.

See section 2.2.2 .

2.2 RAW socket communication

Communication is on port 4223 of the IP address of the BC-MUX. The commands must be sent to the TCP/IP socket with parameters. The commands are terminated with ASCII characters 13 and 10, i.e. "\r\n".

Only two commands are necessary for control.

2.2.1 puls

This command configures the control mode of the relay type used.

Examples:

- `puls 0\r\n`   monostable relay
- `puls 25\r\n`   bistable relay 250 millisecond pulse time

If a number other than 0 is set, the relay is switched with a pulse. Pulse duration (in milliseconds) is 10 times longer than the number defined in the puls command. If the parameter is 0, monostable relays are driven continuously.

2.2.2 ch

This command switches the channels of the BC-MUX.

Examples:

- `ch 0\r\n`   disconnect all channels
- `ch 3\r\n`   connect channel 3 to the workstation

If the parameter is 0, the active channel is disconnected from the Zennium and all channels are switched to the cycler. If no channel was selected, nothing happens.

With the parameters from 1 to 16, the channels from 1 to 16 can be switched to the Zennium.