Buspro Wireless
Pairing devices to the wireless network

Description of procedure and settings

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1. General

Buspro Wireless is part of the Buspro system, the devices of which communicate with each other via a cable bus. Wireless devices do not require a cable bus, but communicate wirelessly in a dedicated frequency band. This results in a difference in commissioning the system. The wireless devices must first be connected to a common wireless network, then the further settings are identical to the settings of the Buspro devices with a cable bus.

The parameters are set using the HBST2 program running on a computer, which is connected to the wireless network via the HDL-MCIP-RF02.10 gateway using Ethernet, see Fig. 1. This gateway has both an Ethernet connection to the computer and an antenna that is connected to the wireless networks.

Note: After setting up the entire network, the gateway can be disconnected. However, the gateway must be left plugged in permanently if a permanent wireless Ethernet connection is required, e.g. for Internet connectivity.

This gateway can also ensure the connection of the wireless network with the Buspro cable bus.

2. Setup procedure

2.1. Connecting the wireless gateway to the computer

Connect a personal computer with OS Windows 7, 8, 10 to the wireless gateway, e.g. according to Fig. 1. The connection can also be made via a router.

ethernet

Fig.1 Wireless gateway HDL-MCIP-RF02.10 and their connection to the PC

Ethernet setup

The IP address of the HDL-MCIP-RF02.10 gateway is factory set to 192.168.10.250. If your gateway has a different IP address (unknown to you), factory settings can be restored by pressing the PROG button for 10-15 seconds.

For a direct connection according to Fig. 1, a fixed address of 192.168.10.200 must be set on the computer's Ethernet adapter (instead of 200, it can be a different value from 3 to 254 other than 250).
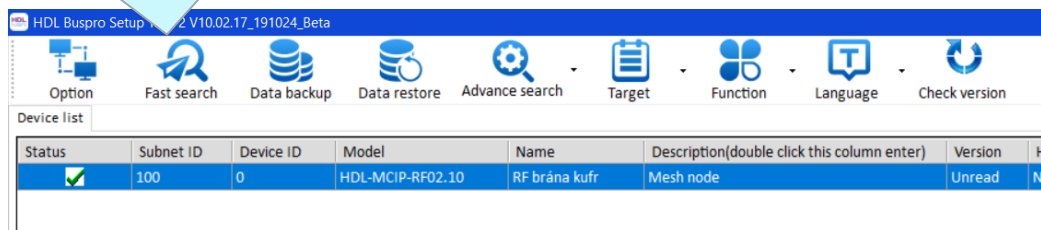
If a IP router or switch is used for connection, it must have a network set to the 192.168.10.x range. The computer's Ethernet adapter can then be set to DHCP mode.

2.2. Network parameters setup

Search and load the Buspro Wireless IP gateway

Network parameters are set by setting the HDL-MCIP-RF02.10 gateway. The gateway must first be loaded to appear in the basic screen of the HBST2 program, see Fig.2.

> The *Fast search* command starts the search of devices. The result is a single find at the moment, and that is the MCIP wireless gateway.

Fig.2 Wireless gateway HDL-MCIP-RF02.10 and its connection to the PC

Setting up the wireless network address system

After loading the gateway, select the address system of the Buspro Wireless network. The address consists of two parts, *Subnet ID* and *Device ID*, see Fig. 2. Select the value of the *Subnet ID* parameter, the factory setting is usually 200, values from 1 to 255 can be used. Change the address by clicking on the gateway line in the *Subnet ID* column or *Device ID*.

Note: *Unlike other devices, the Device ID address value of the wireless gateway cannot be changed and is 0.*

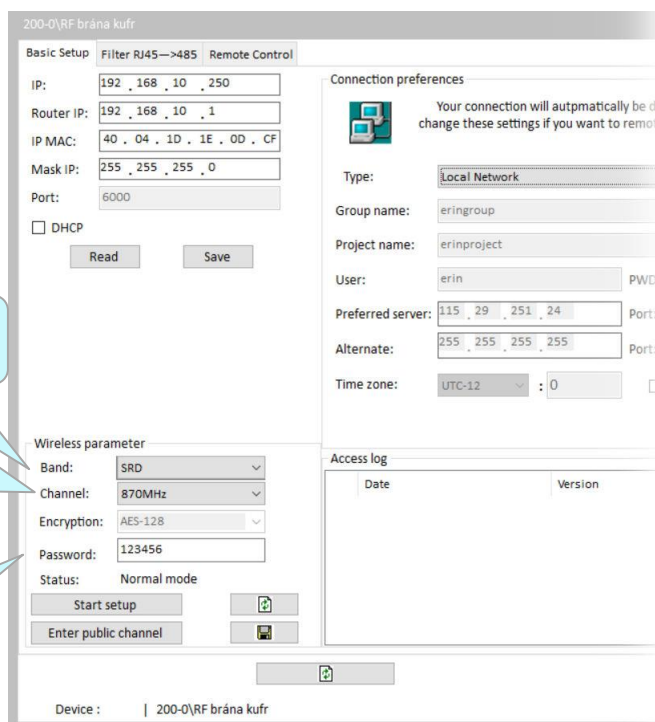### Setting the transmission parameters of the wireless network

Settings are made in the gateway's basic window, which is opened by clicking on the gateway row in the *Model* or *Description* column. Set the parameters according to Fig. 3 and 4.

> *Band*: frequency band. Choose SRD to operate the system in Europe.

> *Channel*: Choose the frequency so as not to interfere with any other devices.
> Note *Multiple wireless networks operating in the same space can be separated by different frequencies.*

> *Password*: Choose a password to encrypt your network. Max. length 16 characters.

Fig.3 Setting the wireless network transmission parameters, tab *Basic setup*

Fig.4 Setting the transmission parameters of the wireless network, tab Filter RJ45 ->485
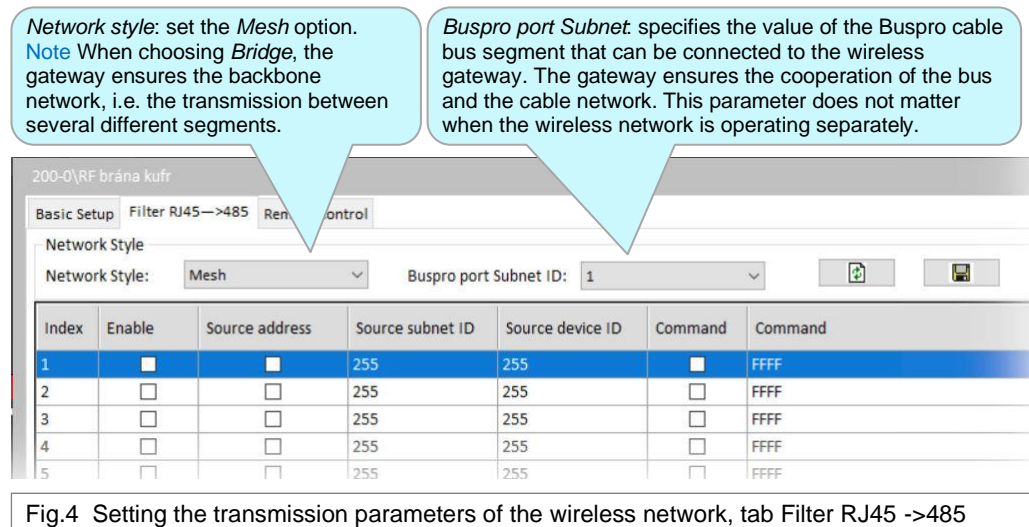
2.3. Pairing devices

Switch the gateway to pairing mode

Before pairing, make sure the wireless gateway has been set up according to the previous steps.

Then put the gateway into the setup mode by pressing the *Prog* button three times, see Fig. 5, or by clicking the *Start setup* button, see Fig. 3. The setup mode is indicated by a rapid flashing of the red light, see Fig. 5.

Note: If the gateway is in setup mode, it cannot be loaded into the HBST2 *program. After matching the desired devices, do not forget to cancel the pairing mode. This is done by simply pressing the* Prog *button.*

Fig.5 Introducing the HDL-MCIP-RF02.10 Wireless Gateway into setting mode
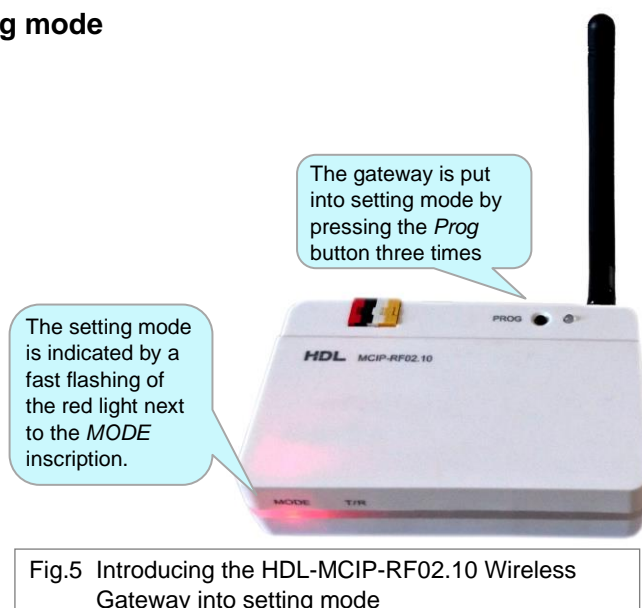
Pairing wireless devices with the gateway

Only one device can be paired with the gateway at a time, so the pairing of multiple devices is done sequentially. The device to be paired must also (like a gateway) be set to pairing mode. This is done as follows:

If the device has a "programming button" such as a wireless relay, etc., this button is pressed three times in rapid succession, causing the device's light to flash rapidly at 2 Hz

(usually green). The light blinks rapidly until pairing is complete. When the indicator light goes to slow flashing once every 2 seconds, the device is paired and automatically switched to normal working mode.

Controllers that do not have a programming button are put into pairing mode by pressing a certain combination of buttons (control panels), or by pressing the button for a long time, or by connecting under voltage when the button was previously pressed. For details, see the manual Introduction to the *HDL Wireless System*, or in the case of newer types, this information is given in the catalog sheet of the device. The most common types of drivers are set as follows:

• DLP Panel: Press the 1st and 8th buttons at the same time to bring up the menu. Select the *WIRELESS* option in the menu. This will illuminate the LEDs of buttons 1 and 8 to indicate that the panel is ready to pair. After successful pairing, the lights will turn off.

• Other types of panels: press any button for **25 seconds**, which will flash the backlight of the buttons to indicate that the panel is ready for pairing.

Note: New devices that have not yet been paired are set to pairing mode automatically when connected to power.

Note: The ideal distance between the gate and the device to be paired is about 0.5 to 2 meters, i.e. on the table, before mounting the device in its construction position. However, under normal conditions, pairing should work at full radio range, i.e. up to 20m.

2.4. Setting devices

The devices paired with the wireless gateway are further set up in the same way as the Buspro devices connected to the cable bus, i.e. using the *HBST2* program. Other principles are also the same, i.e. all devices of the wireless network must have the same *Subnet ID* value as the one that was set on the wireless gateway, i.e. usually 200, see section 2.2.