Gateway Mini

Data connector for indoor use. Connected to the Internet via a network cable (included) or wireless network. In addition, an HDMI display and a USB keyboard are required for connecting to a wireless network. The device is used for continuous transfer of measured data to the ioLiving cloud service.

Protection:	P20, no protection against water or dust
Temperature:	0 °C – +60 °C
LoRa frequency:	871.5 MHz

CE

Table of contents

GATEWAY MINI

Data connector for indoor use

iⓞLiving

CONNECTING GATEWAY TO THE INTERNET

WIRED NETWORK CONFIGURATION

Installation
If a wired network (i.e. Ethernet, LAN) connection is available, it can be used for Gateway's data transmission. Connect powered USB-C connector and network cable to establish the wired connection (see figure 1. and 2.)

Establishing a connection
After installing the Gateway as described, it connects automatically to the internet and ioLiving data server. Ensure that the Gateway connects to the ioLiving server by checking the signal LED's status.

Figure 1:
Gateway Mini and components for wired network connection.

Figure 2:
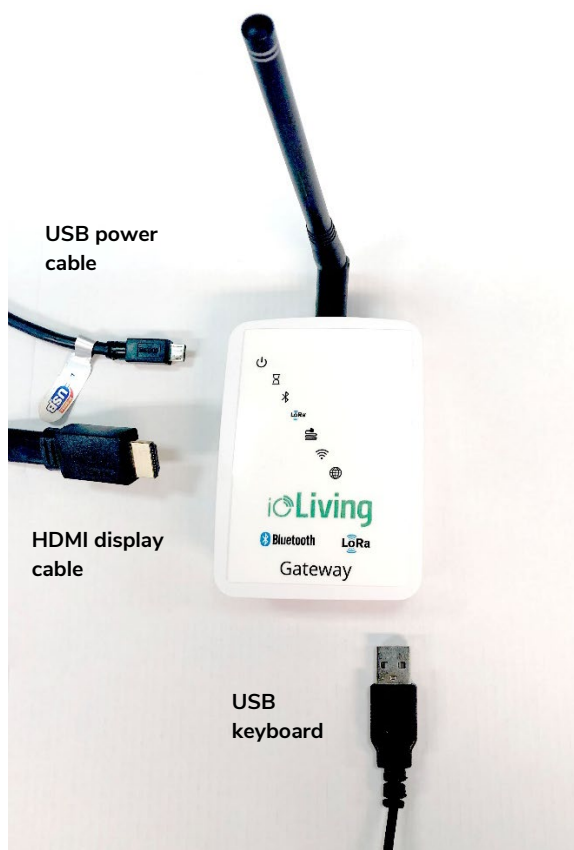Gateway Mini connected to wired network.

WIRELESS NETWORK CONFIGURATION (WLAN, WiFi)

Installation
To configure the wireless network (i.e. WiFi, WLAN) connection: Connect HDMI display, USB keyboard and USB power cable as described following.

Kuva 1:
Gateway Mini and required components for wireless network configuration.

Kuva 2:
Gateway Mini ready for wireless network configuration.

Establishing a connection
After connecting the Gateway Mini as described and powering it with USB cable, the wireless network configuration can be started.

Figure 3.
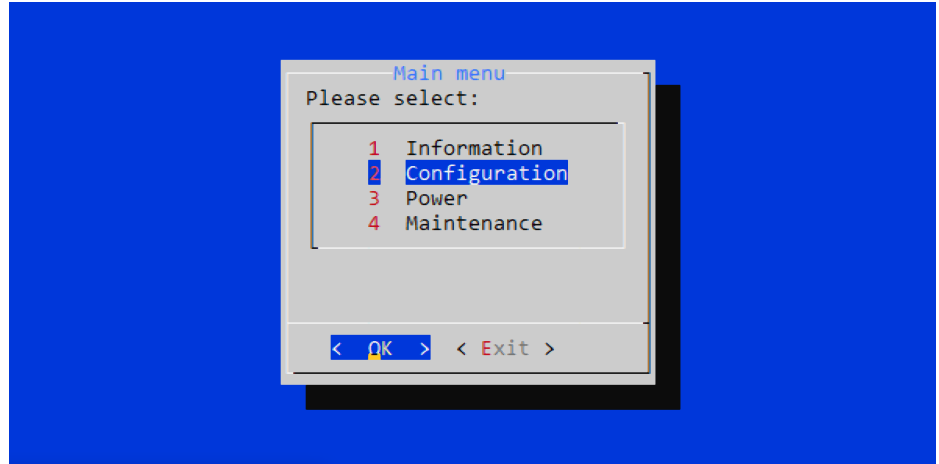Select "Configuration" and "OK" with <arrow keys> and press <Enter>.

```
                    Main menu
        Please select:

                1   Information
                2   Configuration
                3   Power
                4   Maintenance


            <  OK  >   < Exit >
```

Figure 4.
Select "Configure wifi" and "OK" with <arrow keys> and press <Enter>.

```
                Configuration menu
        Please select:

                1   Configure wifi
                2   Change keyboard
                3   Scan duration
                4   Cycle interval
                5   Back



            <  OK  >   < Back >
```
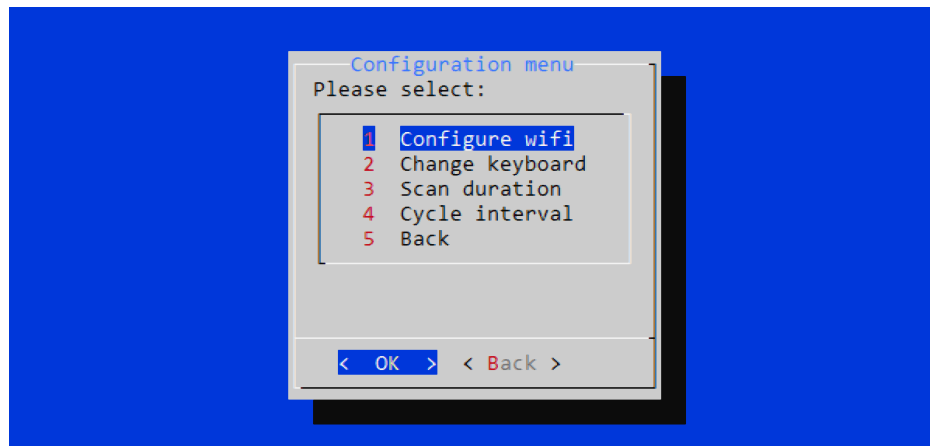
Figure 5.
A list of available wireless networks.

Select the wanted network with <arrow keys>. Pay attention to network's encryption (third column), which is usually "WPA2". Enter the network setup with <right arrow key>.
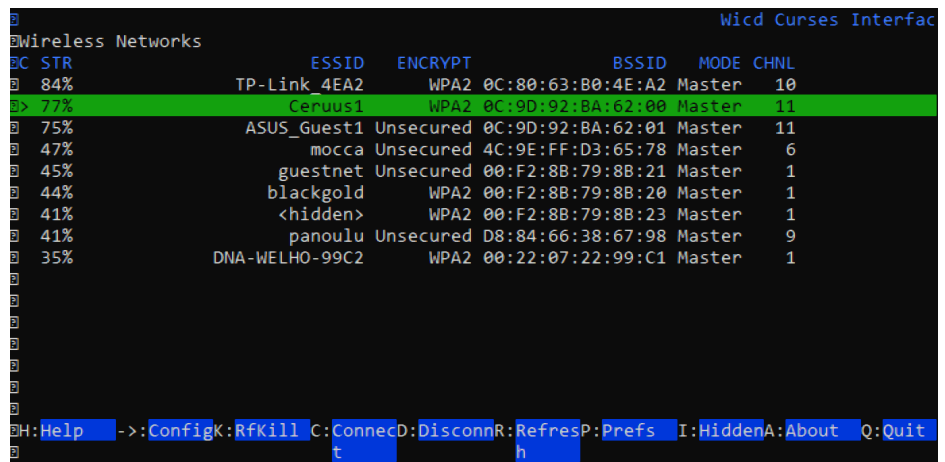
```
                                              Wicd Curses Interfac
Wireless Networks
 C STR            ESSID    ENCRYPT          BSSID     MODE CHNL
   84%      TP-Link_4EA2      WPA2 0C:80:63:B0:4E:A2 Master   10
 > 77%           Ceruus1      WPA2 0C:9D:92:BA:62:00 Master   11
   75%      ASUS_Guest1  Unsecured 0C:9D:92:BA:62:01 Master   11
   47%             mocca Unsecured 4C:9E:FF:D3:65:78 Master    6
   45%          guestnet Unsecured 00:F2:8B:79:8B:21 Master    1
   44%         blackgold      WPA2 00:F2:8B:79:8B:20 Master    1
   41%          <hidden>      WPA2 00:F2:8B:79:8B:23 Master    1
   41%           panoulu Unsecured D8:84:66:38:67:98 Master    9
   35%     DNA-WELHO-99C2      WPA2 00:22:07:22:99:C1 Master    1




 H:Help    ->:ConfigK:RfKill C:ConnecD:DisconnR:RefresP:Prefs  I:HiddenA:About  Q:Quit
                                 t        h
```

Figure 6.
Network setup window.

In the network setup, the cursor can be moved with <arrow keys>. Selections can be made by pressing <Enter> when the cursor is on wanted setting. The selected setting indicates "X".

Select "Automatically connect to this network" to ease the connection in the future.
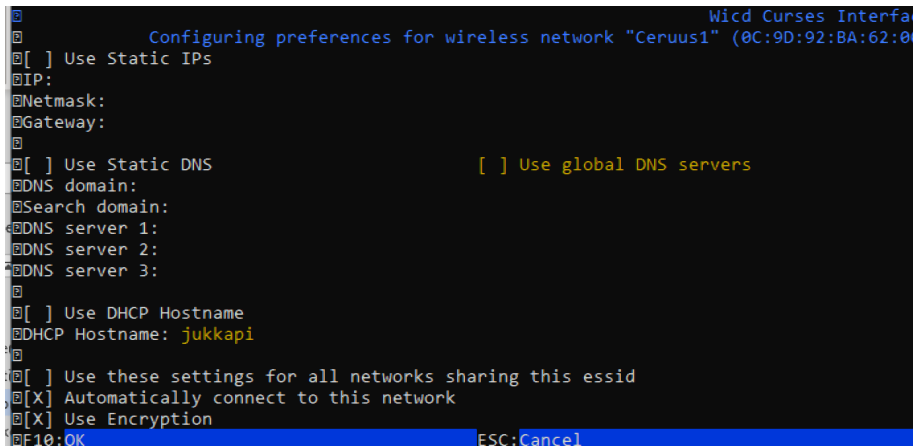
If the network requires encryption, select "Use encryption" and then press <Enter> on the next line to open the selection. Usually the network authentication requires a password and therefore the network encryption is WPA 1/2 (Passphrase). Enter the password for the wireless network.

Save the settings by pressing <F10>. Note that the encryption of the wireless network can be something else than "WPA 1/2 (Passphrase)"

Figure 7.
After the successful connection, network's name turns green on the list.
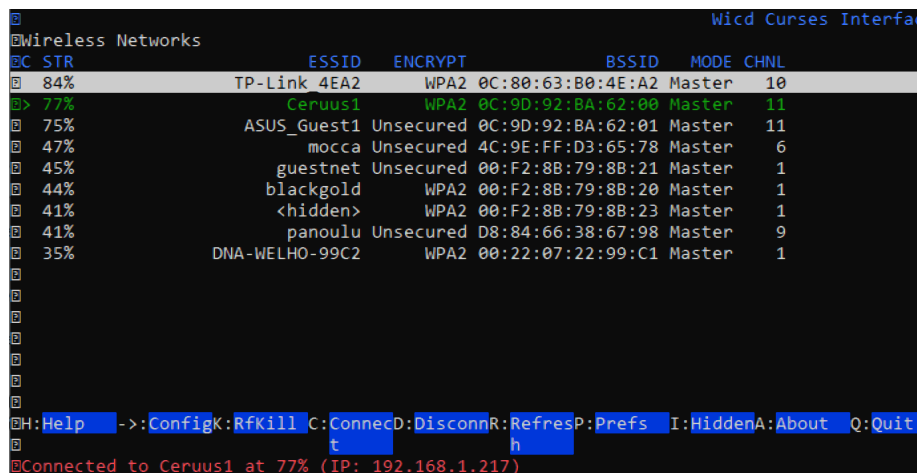
If the automatic connection doesn't work for some reason, it is possible to initiate the connection by pressing <shift> + <C> (there's a couple seconds delay in the software). The status of the connection appears at the bottom of the window. While selecting the network, the first column shows the strength of the signal in percentage (max signal strength is 100%). If the signal strength is low, relocating the Gateway may improve the connection strength.

Exit the network setup by pressing <Q>.

Verify the functionality of the wireless network

Figure 8.
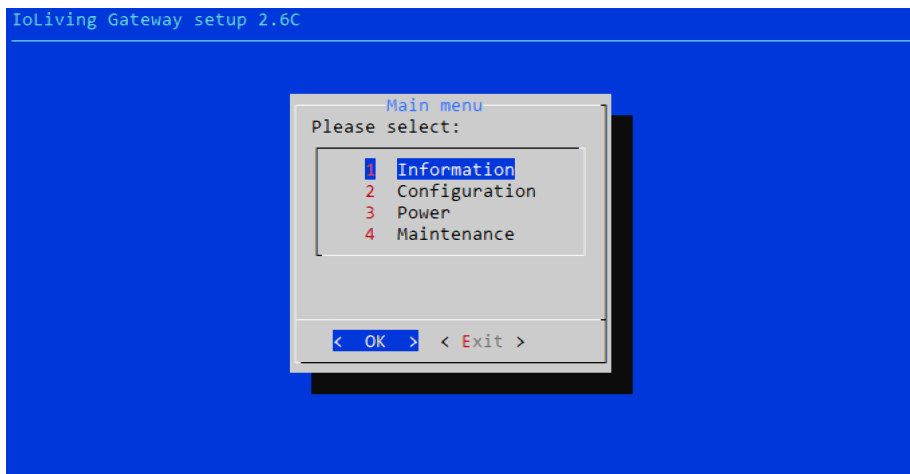In the main menu select "Information" and "OK" with <arrow keys> and press <Enter>.

```
IoLiving Gateway setup 2.6C

                    Main menu
             Please select:

                 1  Information
                 2  Configuration
                 3  Power
                 4  Maintenance


             <   OK   >   < Exit >
```

Figure 9.
Select "Show IP address" and "OK" with <arrow keys> and press <Enter>.

```
IoLiving Gateway setup 2.6C
                    Information menu
             Please select:

                 1   Show serial number
                 2   Show IP address
                 3   Show wifi MAC address
                 4   Server connection
                 5   GW log file
                 6   GW status
                 7   Uptime
                 8   Temperature
                 9   CPU load
                 10  Back



             <   OK   >    < Back >
```

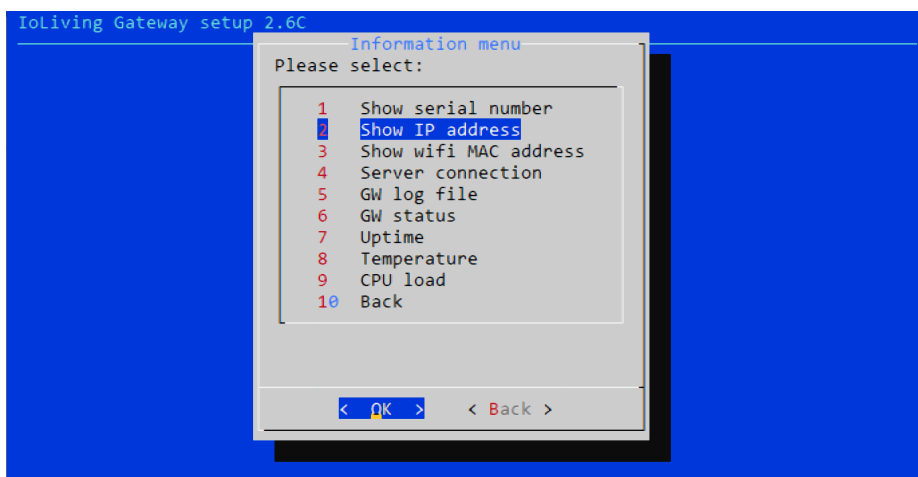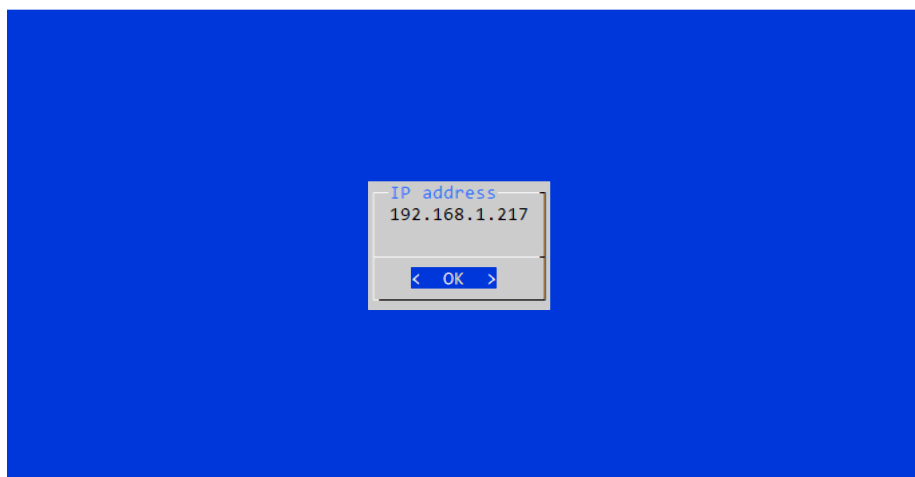**Figure 10.**
If the wireless network connection is OK, the IP address window appears.

```
                 IP address
                 192.168.1.217

                 <   OK   >
```

Finally verify the server connection functionality.

Figure 11.
In the main menu select "Information" and "OK" with <arrow keys> and press <Enter>.
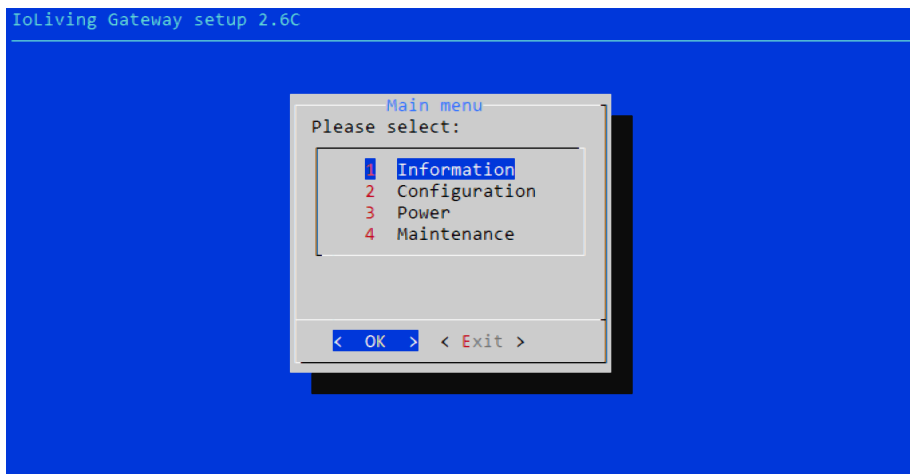

Figure 12.
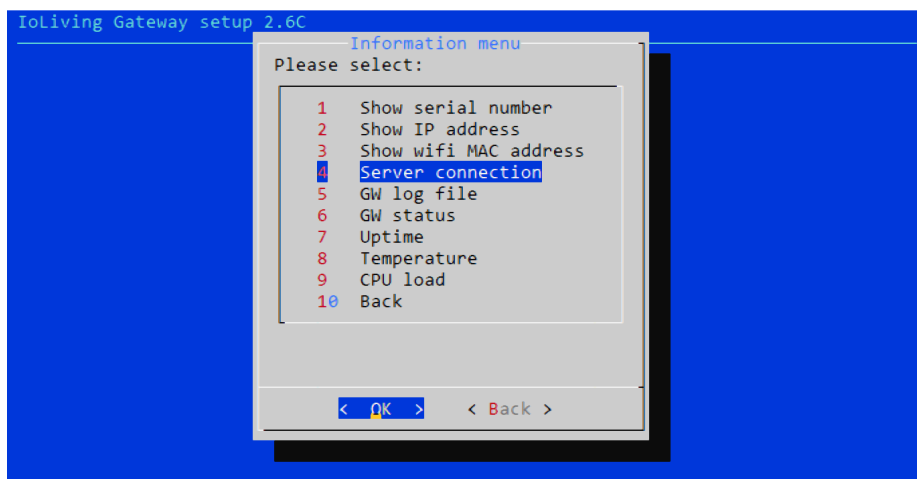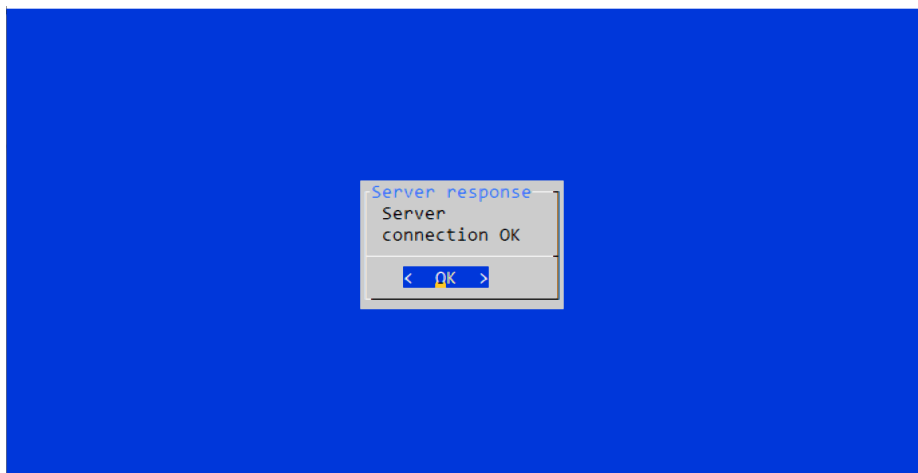Select "Server connection" and "OK" with <arrow keys> and press <Enter>.

Figure 13.
If the server connection is OK, a notification window with text "Server connection OK" appears.

After verifying the server connection, the display and keyboard can be disconnected from the Gateway. Since the automated network connection is selected and stored in the settings, it is also possible to power off the Gateway. It will connect automatically to the server when the power is on again and the configured wireless network is available.

GATEWAY LED SIGNAL DESCRIPTION AND TROUBLESHOOTING

Figure 1.
There are seven signal LEDs in the Gateway device.

Table 1.
LED symbol descriptions

| Symbol	Description
⏻	Gateway status LED • Green blinking: The power is on and the device is operational. • Not blinking: The software has halted, reboot the device.

⧗	Initializing LED
	• Yellow blinking: The device has been recently turned on. When the device is ready (device boot up and initialization may take few minutes) the LED turns off.
	• Constant red:
	  1. Reboot the Gateway.
	  2. Check the selected network's connection with another device.

✳	Bluetooth LED • Constant green: The device has detected Bluetooth devices within the range
LoRa	LoRa LED • Constant green: The device has detected LoRa devices within the range. • Occassionally blinking blue: The LoRa signal has been received.
⬒	Wired network connection LED • Constant green: Wired connection is OK. • Constant red: No wired or wireless connection (Appears concurrently with wireless red LED) *
📶	Wireless network connection LED • Constant green: Wireless connection is OK • *Constant red: No wired or wireless connection (Appears concurrently with wired red LED)

🌐	ioLiving server LED
	• Constant green: Connection to ioLiving server is OK.
	• Constant red: No connection to ioLiving server:
	  1. Reboot the Gateway.
	  2. Check the network connection with another device.
	  3. Try again after longer period, the server may be down or overloaded.
	  4. Contact the device support..

If the both network LEDs are red there's no active network connection at all. Check the desired network configuration from the user's guide chapter XXX.

Notice that the network connection can be either wired or wireless, not the both at the same time.

It may take several minutes after the device boot up until the connection is established.

Possible wireless network configuration problems:

1. Black screen:

   • Check the monitor is switched on.

   • Check the monitor power cable is connected correctly.

   • Check the monitor's signal cable is connected correctly.

2. No setup window on the screen:

   • Check the Gateway's USB power cable is connected correctly.

   • Check the USB power cable is active.

3. The keyboard is not working.

   • Check the keyboard cable is connected correctly.

4. A command window appears:
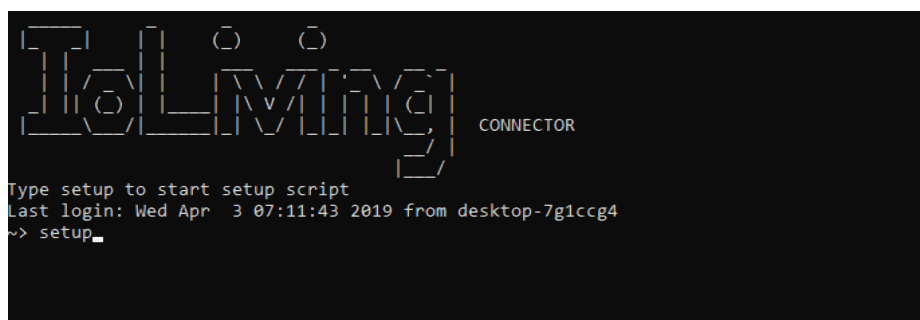
Write "setup" and press <Enter> to start the setup.

GATEWAY ACTIVATION IN IOLIVING SERVICE

To monitor Gateway's functionality and status, it must be activated in the ioLiving service.

Figure 1.
Gateway's serial number can be found in the sticker attached to the casing.

1. Write down Gateway's serial number.

2. Sign in to the ioLiving service portal www.ioliving.com

   - Login with your credentials
   - Account
   - Gateway devices

Activate the Gateway with its serial number.

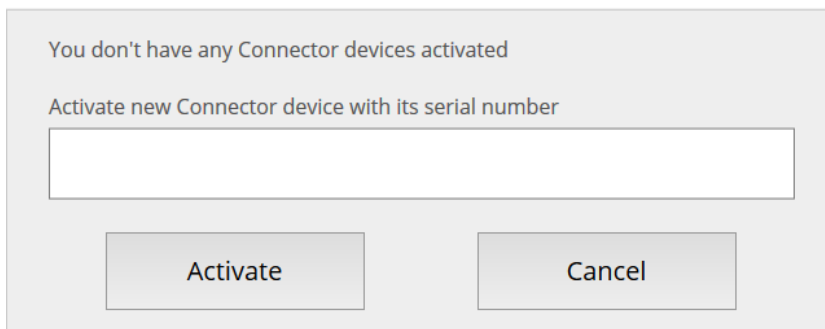Figure 2.
Gateway's activation window.

4. After the activation Gateway status can be checked in the ioLiving service by selecting: → Gateway devices
5. It is possible to activate several Gateways under the same account.
6. The notifications can be turned on/off with just a click of a mouse.
7. The device can be removed from the account when necessary.

Figure 3.
Gateway device's status window.

Gateway devices

Serial number:	4133248290
Latest connection:	8.4.2019 10:55
SW:	Raspberry Python v2.4 LoRa Blinkt
IP:	80.75.99.67

Devices:

0000032	
Blast chilling	LoRa
C v3	Bluetooth
DWL	LoRa
Shokkipottu	
strl	LoRa
TempSpy C	Bluetooth
TempSpy D	Bluetooth

☐ I want notification if this device is not working   Save

To receive SMS notifications you need to set technical support phone number.

Notifications are send via email to technical support person.

Remove this connecter

Activate new Connector device with its serial number

[   ]

Activate   Cancel