humidity**sensor**

control with µWiFi technology
from any place in the World

MINIATURE TEMPERATURE AND HUMIDITY SENSOR

SAFETY RULES

⚠️ **Improper connections may be dangerous, it can damage the controller, and loss of the warranty.**

⚡ **DANGER! Risk of electric shock! Even with the device turned off, the outputs may be live. All assembly work should be ALWAYS performed with the disconnected power circuit.**

⚠️ **The installation of the device to a power mains that does not meet the quality requirements defined by EN 50081-1, EN 50082-1, UL508, EN 60950, will result in the loss of the warranty.**

1 — INSTALLATION - BASICS

- The device should be mounted in a place protected from direct adverse environmental conditions, in particular atmospheric precipitation. Remember that metallic elements (wires, elevation elements, window frames, barriers) negatively influence the range of the radio system of the device and, therefore, the comfort of use. It is recommended that the device be mounted in a stable and fixed position.

- The measuring probe is splashproof but not waterproof. It is not allowed to install the probe in a place exposed to contact with oils, liquid fuels, solvents and corrosive substances and in places exposed to direct action of high temperature. If the pores of the probe housing become wet, an elevated moisture reading may persist for an extended period of time.

- Connect the 5V DC power cable to the micro USB connector.

- Run the device by switching on the power supply (switch on the mains fuse or connect the power supply to the socket). The correct operation of the device is signaled every time by the blink of a green LED. The red LED indicates a sensor error, the appropriate message is also visible in the wBox software (more information about the wBox application later in the manual). In this situation it will be necessary to check whether the probe or connection cable has been damaged.

2 — FIRST START

- Download the **free wBox application**. If you have an Android mobile device, you will find the application in the Play Store. For iOS devices the application is in the App Store.

- By using your mobile phone or tablet, connect it to the device wireless network. To do this, go to your smartphone or tablet settings, then go to setting of the WiFi network and find the network name „humiditySensor-xxxxxxxxxx" where xxxxxxxxxx is the serial number of the device. Connect to this network.

- Turn on the wBox application. You will see your device on the main screen. In order to add it to your application account, select "Add device to account". If you are the installer and do not want to assign the device to your account, select "Use only once".

ℹ️ You can also set the configuration using the web browser of your phone / tablet. After connecting to the wireless network of the controller, turn on the browser and go website www.blebox.eu

3 — WIFI CONNECTION AND SERVICE CONNECTION (AP) SETTINGS

- Go to the WiFi network settings ("Settings" icon in the top right corner of the screen, "Connection" section), where you can connect the device to the home WiFi network to be able to control the device via it or from anywhere in the world. To do this, select the network name from the list of available networks and press "Connect". If required, enter your WiFi password. When connecting the device to the home network, the phone / tablet may disconnect from the device's network.

- After reconnecting the phone to the controller's WiFi network, check the "WiFi Client status" and "Remote access status" fields. The controller is equipped with a network connection supervision system which in case of problems with connection to the WiFi or the Internet will report the problem and its possible causes. If the network is working properly both fields will be set to "Connected".

- In order to communicate with the device from outside the local WiFi network, from anywhere in the world, via the wBox application, the device automatically connects to the BleBox cloud system service by default. The remote access system is fully encrypted and secure, the data are transmitted by European servers from reputable companies. It is possible to disable the remote access service - after clicking the "Configure" button, toogle the switch next to the "Remote access" option. Remember that disabling "Remote access" will result in no access to the controller from outside the local network as well as disabling the notifications and external integration systems, therefore we recommend that you leave this option enabled (default setting). event log

- Enabling the "Event log" option will cause the device to record events (e.g. about sent notifications set in the "Actions" section) in the BleBox cloud system. This allows the history of the events to be viewed later also when the controller is offline.

- After completing the WiFi network configuration, you can disconnect from the device network and connect the phone / tablet directly to your home WiFi network. Control from the wBox application will work in the same way as when the phone / tablet is connected to the device's network. If as a user you leave the local network, eg leaving your home or enclosing mobile data, the wBox application will signal this status as "Remote mode". In this case, you will have access to the device data, but for security reasons settings options will not be available.

- In the "Service connection (AP)" section, you can change the name and give the password of the WiFi network emitted by the device. Remember that changing the network name or password can cause disconnection with the device immediately after clicking the "Save" button, so you should reconnect to the WiFi network.

- It is also possible to completely disable the access point emitted by the device. To do this move the "Access point" slider to the off position and confirm the selection with the "Save" button.

Attention! If the controller does not have a stable connection to the WiFi network ("WiFi client status": "Connected", without any error warnings), restarting the access point will not be possible - in this situation, the only solution is to reset the controller to the factory settings. Disabling the access point is recommended only after the complete driver configuration and making sure that the entire system is working properly.

4 — DEVICE SETTINGS

- Go to the device settings (the "Settings" icon in the top right corner of the screen). In the "Name and icon" section you can change the name of the device under which it is displayed in the wBox application. In the "Device Settings" section it is possible to turn off the LED diode built into the device.

- Based on readings from temperature and humidity sensors, the device also calculates other environmental parameters, such as absolute humidity, dew point, heat index or thermal comfort. Individual parameters are displayed as virtual sensors and can be turned on or off in the settings.

5 — MEASUREMENT DATA

- The main screen of the controller shows the current reading of humidity and temperature, below there are indicators of the trend of changes.

- Historical measurement data are available by clicking on the diagram icon in the upper right corner of the screen. Measurement data are stored only on the BleBox server and are available only when the "Remote access" option is set to "Yes".

- Historical measurement data can be exported for further analysis. The export form will be displayed after clicking on the cloud icon in the upper right corner of the screen.

▶

- The controller allows you to send control commands to other BleBox controllers via the WiFi network through the API. Each action will be deployed on particular trigger, eg. like temperature lower than, which allows you to build, for example, a temperature control system.

- When adding an action, in the "When" tab, select "Temperature" as "Sensor", select "Temperature greater than" / "Temperature less than" as "Trigger type" and fill the "Temperature °C" field.

- In the "Execute" tab select "Control other device" as "Result", confirm. Click on the "Select device" icon. The device will search the network for compatible devices and display them in a list. Choose the device you want to control. If the device is not listed you must use the general API control method described below or update the firmware in target device.

- Then in the "Call API" field enter the API command that the driver will call.

- The most popular API control commands /s/ for switchBox and shutterBox are presented below:

  Switching on the radiator via switchBox: 1

  Switching off the radiator via switchBox: 0

  Opening the roof window via shutterBox: u

  Closing the roof window via shutterBox: d

- By default, the action will be triggered once, when the trigger condition is met. It is also possible to repeatedly call a given action by selecting one of the repeat options and setting the interval.

- If the device was not on the found list or you want to control another device in the network, select "Call URL" as "Action type".

- In the "URL" field, enter the API command preceded by the http protocol prefix and the IP address of the wBox device which will be controlled. The IP address can be found in the device settings. Caution! All the controllers must be in the same subnet, usually the subnet of a home router.

- The most popular API commands for switchBox and shutterBox are presented below. It was assumed that the IP address of the device which will be controlled is: 192.168.1.123

  Switching on the radiator via switchBox: http://192.168.1.123/s/1

  Switching off the radiator via switchBox: http://192.168.1.123/s/0

  Opening the roof window via shutterBox: http://192.168.1.123/s/u

  Closing the roof window via shutterBox: http://192.168.1.123/s/d

- In the "Summary" tab name the action, check its correctness and confirm the entry with the "Save" button.

> **i** The temperature regulator requires a hysteresis configuration, it means, a certain difference between the switch on temperature and the switch off temperature. In the case of the radiator control, the switch on temperature must be lower than the switch off temperature, e.g. "Temperature lower than: 19°C, action: turn on", "Temperature higher than 21°C, action: turn off".

- A detailed description of how to control other controllers of the wBox series is available in the "Extended instructions for wBox devices", while all the technical documentation API of the wBox controllers is available at: http://technical.blebox.eu

- The added action will be displayed on the list. By expanding its details it is possible to preview the status of its last execution.

- The controller allows you to display a system notification on a phone with the wBox application installed on the particular trigger, e.g. "Temperature higher than".

- Notifications only work when the controller has a stable Internet access and the "Remote access" option is enabled (default setting).

- Notifications are added similarly to "Actions" - fill in the form fields and in the "Execute" tab select "Notification" as "Result". Confirm with the "Save" button.

- In order for the notification to be displayed on the phone it is necessary to allow the controller to display notifications. Go to the main menu of the wBox application, to the "Notifications" tab. Then go to the settings (the "Settings" icon in the upper right corner of the screen). Find the device on the list and select "Action notification" from the drop-down list next to the device name. You can also select other types of available notifications or µPortal notifications. Confirm the change of preferences with the "Save" button in the upper right corner of the screen.

- If notifications are not displayed despite their configuration check in the phone system settings (Android / iOS) whether the wBox application is authorized to display system notifications.

TECHNICAL SPECIFICATIONS	
power supply	5V by microUSB connector
energy consumption	< 1W
typical accuracy	**humidity sensor:** ±1,8% RH in 30 - 70% humidity range and in 0 - 80 °C temperature range
	temperature sensor: ±0,2 °C i 0 - 60 °C range
measurement range	**humidity sensor:** 0 - 100 %RH or up to condensation on the surface of the sensor
	temperature sensor: from -40 to +125 °C
resolution	**humidity sensor:** 0,1 %RH
	temperature sensor: 0,1 °C
temperature range of the probe	from -5 to 70 °C (occasional flexing), from 40 to 80 °C (fixed connection)
dimensions	31 x 45 x 15 mm
housing	high quality ABS plastic
dimension of the probe	diameter 13mm, length 46mm
type of probe	wired, resistant to splashing water, cable length 1m
protection level	IP32
communication standard	µWiFi, compatible with WiFi, 802.11g
transmission type	bidirectional, encrypted
encryption	WPA2-PSK and authenticated encryption with associated data (AEAD)
mode	direct connection (as Access Point), Wi-Fi connection via a stan- dard router, connection with access from any location in the world (requires only access to the Internet)

radio frequency	2.4 GHz
API	open
compatible devices and systems	Apple iPhone, Apple iPad, iPad Mini, Android, computers and mobile devices supporting HTML5
controller operating temperature	from -20°C to +50°C

for more information visit our website

www.blebox.eu

or send us an email to: info@blebox.eu

support is available at support@blebox.eu

made in Europe

ADDITIONAL INFORMATION

TIME AND LOCATION OF THE DEVICE

Go to settings, to the "Time and location" section. In the "Device time" tab, select your region and location from the list, confirming the changes with the "Save" button. The device will synchronize its time with the NTP time server (if the controller is in a WiFi network with Internet access) or will download the time from the phone / tablet. Since the controller does not have a clock backup battery, the clock resets itself when the power is disconnected. Hence, it is recommended that the controller is always connected to a WiFi network with internet access so that it can automatically synchronize its clock. This is especially important in controllers that have the function of working with the schedule.

You can specify the location of the controller using your smartphone or tablet. In the "Device location" tab click the "Set location" button. The application will ask whether to share the location - allow. The approximate coordinates of your location should appear in the "Coordinates" box. If the "Set location" button flashes red with "Error" or the "Coordinates" field has not changed the value from "Not set" to numerical data there has been a failure in retrieving the location. You should then make sure that the phone / tablet has a GPS module and that the wBox application has access rights to download the location in the phone settings. Setting the location is especially important in controllers that have the function of working with the schedule, in which the schedule is based on sunrise and sunset.

SOFTWARE UPDATE

In order to update the software in the controller it must be connected to the home WiFi network (see "WiFi connection settings" section) which is connected to the Internet. Go to settings, to the "Details, update and help" section and click the "Check for update" button. If an update is available the button changes to "Download new software". After clicking it, wait about 1 minute without closing the interface or taking any other actions. The device will download the latest software and then reboot. You can read the device ID, hardware and software versions in the device details.

HELP

The latest versions of the manual, additional informations and materials about products are available on our website: blebox.eu

General questions: info@blebox.eu
Service and technical support: support@blebox.eu

Before contacting our service, if it is possible, prepare the "Service key" of the given controller available in its settings, in the "Details, update and help" tab. By clicking the icon, the key will be copied to the phone's clipboard. Prepare also the "Installation key" of the wBox application, available in the main application menu, in the "Settings" tab.

Factory reset manual is available at: blebox.eu/start/reset

Attention! Factory reset does not remove the controller from the user account assigned to it. The device must be independently removed from the account - select "Manage devices" from the main menu of the wBox application, then select the device and click the "Remove device" button. Alternatively, you can log into the portal.blebox.eu system, go to the "Devices" tab, choose the device and select "Remove device" from the top-right "Actions" menu.

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