




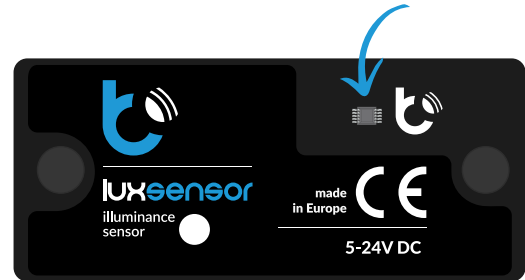


### SAFETY RULES

-  Innapropriate connection 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.



Remember to maintain the sensor - to preserve the accuracy of the measurements, the sensor should be cleaned regularly with a soft, damp cloth without using additional chemicals. When cleaning be careful not to scratch or dull the protective layer of the sensor.

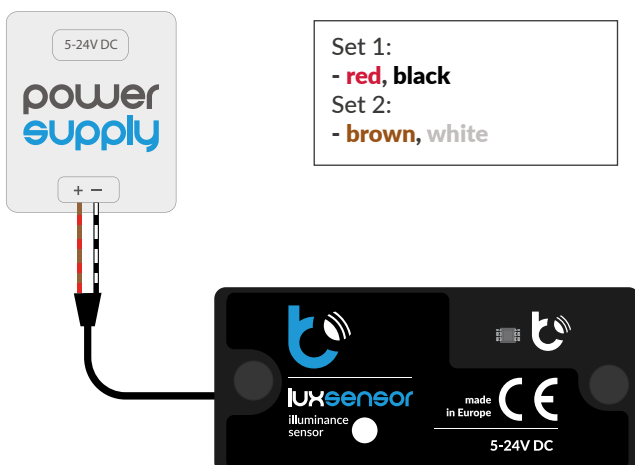


## 1 INSTALLATION - BASICS

- The controller should be installed in a place protected against accidental damage. Remember that metal elements (cables, large fitting elements) negatively affect the range of the device, and thus the comfort of use. When installing the device outside of dry rooms, arrange the cable in such a way that the stream of water flowing down it does not drip directly towards the controller - it is best to direct the cable downwards or arrange the cable in a U-shape directly in front of the controller. It is recommended that the device be mounted in a stable and fixed position using the included double-sided tape or screws.



- Connect the device USB cable to a 5V DC power adapter or charger.
- Alternatively if the device is to be powered from a higher voltage, i.e. 5-24V DC, cut the power cord at the USB plug (does not void your warranty, go ahead and cut!), then connect the 5-24V power wires (red/brown) and common ground wire (black/white) to power supply unit.
- Turn on the device by switching on the power supply (switch on the mains fuse or connect the power supply to the socket).



## 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 "luxSensor-xxxxxxx" where xxxxxxxx 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".

## 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.
- You can also configure the network settings using a web browser. After connecting to the controller's wireless network, turn on the browser and go to [www.blebox.eu](http://www.blebox.eu)
- 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, toggle 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).
- 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.
- The "Illuminance value shift" option allows to correct the reading by a percentage value. Settings can be made with a slider or by filling a value in the field. This option is mainly useful in unusual mounting places, e.g. behind an additional protective layer, in a pocket, where the protective layer reduces the amount of light that reaches the sensor. Default: 0%.
- The "Mounting place" option affects the type of information displayed. If "outdoor" is selected, in addition to the absolute brightness value, the sensor also shows the estimated sun position or weather conditions (cloudless sky, total cloud cover, sunset/sunrise).

## 5 MEASUREMENT DATA

- The main screen shows the current illuminance reading in lux, below are the statistical values of the maximum and average light intensity over the last 10 minutes.
- 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 (cloud)" option is enabled (enabled by default).
- Historical measurement data can be exported for further analysis. The export form is available from the menu in the upper right corner of the screen.

## 6 ACTIONS

- The controller allows you to send control commands to other BleBox devices via the WiFi network through the API. Each action will be deployed on particular trigger, e.g. illuminance greater than, which allows e.g. the automatic closing of blinds.
- When adding an action, in the "When" tab, select "Illuminance greater than" as "Trigger type" and fill the "Illuminance lx" field with a value expressed in lux, e.g. 500.
- 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:

*Turn on the light via switchBox: 1*

*Turn off the light via switchBox: 0*

*Open the shutter via shutterBox: u*

*Close the shutter via shutterBox: d*

- Set the calibrated shutter at position in percentage by shutterBox: p/20 (i.e. 20% closed, where 0 = fully open, 100 = fully closed).
- 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

*Turn on the light via switchBox: http://192.168.1.123/s/1*

*Turn off the light via switchBox: http://192.168.1.123/s/0*

*Open the shutter via shutterBox: http://192.168.1.123/s/u*

*Close the shutter via shutterBox: http://192.168.1.123/s/d*

- Set the calibrated shutter at position in percentage by shutterBox: http://192.168.1.123/s/p/20 (i.e. 20% closed, where 0 = fully open, 100 = fully closed).
- In the "Summary" tab name the action, check its correctness and confirm the entry with the "Save" button.
- 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.

## 7 NOTIFICATIONS

- The controller allows you to display a system notification on a phone with the wBox application installed on the particular trigger, e.g. "Illuminance greater 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 device to display notifications, and the "Event log" setting must be enabled. Go to the controller settings, to the "Notifications" section and select the "Action notification" option. You can also select other types of notifications available in the controller or notifications related to the remote access system (cloud). Confirm the change of preferences with the "Save" button in the upper right corner of the screen. The "Event log" setting can be changed in the "Connection" section of the device settings, in the "Remote access details" field - "Configure".
- 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	USB-A or 5-24V DC from an external power supply
energy consumption	< 1W
protection type	short-circuit protection, reverse connection
type of measurement	measurement of lighting intensity

measurement range	0 - 50 000lx
measurement resolution	0.1lx in the range: 0 - 10lx, 1lx in the range: 10 - 50 000lx
measurement variation	±15%
signalling	iOS/Android notifications
housing	made of thermosetting photopolymer resin and transparent polyurethane resin free from solvents and halogens
dimensions	50 x 22 x 9 mm
protection level	IP65
mounting method	double-sided mounting tape or two 3x15 screws spaced 40mm apart
power cord length	2m
API	open
antenna	integrated
communication standard	µWiFi, compatible with WiFi, 802.11g
transmission type	bi-directional, encrypted
radio frequency	2.4 GHz
mode	direct connection (as Access Point), Wi-Fi connection via a standard router, connection with access from any location in the world (requires only access to the Internet)
encryption	WPA2-PSK and authenticated encryption with associated data (AEAD)
compatible devices and systems	Apple iPhone, Apple iPad, iPad Mini, Android
controller operating temperature	-20°C to +50°C

## 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](http://blebox.eu)

General questions: [info@blebox.eu](mailto:info@blebox.eu)  
Service and technical support: [support@blebox.eu](mailto: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](http://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](http://portal.blebox.eu) system, go to the "Devices" tab, choose the device and select "Remove device" from the top-right "Actions" menu.

for more information visit our website

[www.blebox.eu](http://www.blebox.eu)

or send us an email to: [info@blebox.eu](mailto:info@blebox.eu)

support is available at [support@blebox.eu](mailto:support@blebox.eu)

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