switchboxD

control with µWiFi technology
from any place in the World

user manual

WIRELESS DOUBLE SWITCH 230V WITH ENERGY CONSUMPTION MEASUREMENT

ability to control by voice commands with
Amazon Alexa i Google Home

SAFETY RULES

Do not connect the device to loads exceeding the permitted values.

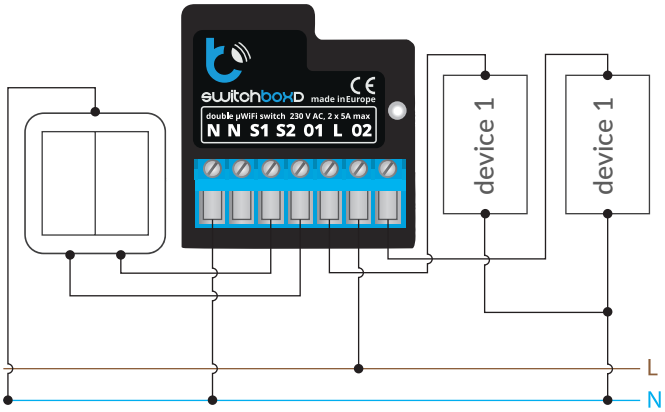
Connect only in accordance with the diagram presented in the manual. Improper connections may be dangerous, it can damage the controller, and loss of the warranty.

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 PN-EN 50160, will result in the loss of the warranty.

Protect the power circuit with overcurrent protection.

CONNECTION DIAGRAM



1 INSTALLATION - BASICS

- Disconnect the installation supply voltage before installing the controller. Remember that any mounting works should be carried out when the mains voltage is disconnected (switch off the mains fuse or disconnect the power cord from the mains socket).
- The controller should be installed in a place protected against adverse environmental conditions, protected from third party access - in the flush box or inside the enclosure of the controlled device. Remember that metallic elements (wires, housing parts) have a negative influence on the range of the device, and consequently the comfort of use. It is recommended that the device be mounted in a stable and fixed position. Due to the operating voltage of the device it is necessary that the connectors of the controller be protected against accidental contacts or short circuits, which could cause electric shock or damage to the device.
- Read the diagram and then proceed to install the controller. Pay particular attention to the designation of the controller connectors. Start with power wires - phase L (usually brown) and neutral N (blue). Then, connect the load. If you only want a local control with a wall switch, connect the wall push-button according to the diagram. To control using only your phone or Tablet, it is not necessary to install the wall push-button.
- After making sure that the device is connected in accordance with the diagram and that there are no metal components near the controller which may accidentally cause short-circuit, start the device by turning on the power (turning on the mains fuse or connecting the power cord to the power outlet).

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 “switchBoxD-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”.

> 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

- Test the controller's work by pressing the ON/OFF button in the app, paying attention to the behavior of the connected load. If you have connected a wall switch, check its operation. The default configuration is designed to work with bistable buttons (candlestick switch). In this configuration, for monostable buttons (push-buttons), holding down the push-button should turn on the load, releasing will turn off the load. Changing the action settings is described in the further part of the manual.

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.

- To control some devices, e.g. fans with two-three-stage speed regulation, it is necessary to change the operating mode of the outputs, from independent to push-pull. In push-pull mode, only one output can be turned on at a time. In other words, turning on a given output turns off the others.

- It is also possible to change the order of the logical outputs with respect to the physical connectors. In addition, for each output, you can independently determine the state after a power reset and set a timer.

- The "Power consumption measuring" option determines whether the controller should show and archive the energy consumption of the connected load.

- Attention! Energy measurement is carried out for the entire device - the current value of energy consumption is the sum of energy consumed in individual, currently switched on circuits.

- Also check the selection in the "State after restart" option, which determines how the controller behaves after a restart caused by, for example, a power failure. You can choose whether the load should be on, off, remain as before the restart (if it was off then it has to continue off), or take the opposite state.

- Setting the value in the field "Switch on for time" will cause an additional "Switch on for time" button to be displayed on the control screen. Each press of the button counts down the set time after which the load will be turned off.

5 MEASUREMENT DATA

- When the "Power consumption measuring" option is set to "Yes", the main screen of the controller displays the measurement data. The device measures the current power of the connected load and also counts energy consumption per unit of time. It is possible to set the cost of 1kWh of energy so that the cost of energy consumed in a given period is immediately visible.

- 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.

6 ACTIONS

- 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, e.g. like short click.

- Two, the simplest, exemplary actions are set at the factory. They allow you to control a given output using a bistable button (candlestick switch), connected to the corresponding input. If, for example, you use a monostable (bell) button, it is necessary to modify them.

- When adding an action in the "When" tab select "Short click / Long click/ Trailing edge / Leading edge / Edge" as "Trigger type". In the "Input" field, indicate the input to which the given action applies.

- In the "Execute" tab select one of the options: "Switch on", "Switch off", "Toogle state", "Direct", "Invert" or "Switch on for time" as "Result" when you want to set the action for the physical output. Not all options are available for certain types of actions.

- If you want to control another device from the wBox series 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

  Toogle the output of switchBox: 2

  Opening the roller shutter via shutterBox: u

  Closing the roller shutter via shutterBox: d

  Turning on the light bulb connected to the first output (O1) of switchBoxD: 0/1

  Turning off the light bulb connected to the first output (O1) of switchBoxD: 0/0

  Toogle the second (O2) output in switchBoxD to the opposite: 1/2

- 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 roller shutter via shutterBox: http://192.168.1.123/s/u

  Closing the roller shutter via shutterBox: http://192.168.1.123/s/d

  Toogle the output of switchBox: http://192.168.1.123/s/2

- 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. like short click.

- 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

supply voltage	230V AC
energy consumption	< 1W
maximum load	2 x 5A
controlled devices	lighting, single-phase motor, cylinders, transformers, etc.
maximum power	2 x 1150VA (1150W for resistive load e.g. heater)
supported switches	monostable (push-button), bistable (traditional, cross switch), not-illuminated
voltage outputs	230V AC
number of inputs	2
type of inputs	logical, pushbutton, short circuited to N, configurable
number of outputs	2
type of outputs	output phase
mounting method	in the flush-mounted box (deepen or double), on the receiver - e.g. lamps, radiator, etc.
housing	made of polyurethane composition not containing halogens, self-extinguishing for thermal class B (130 °C)
dimensions	39 x 42 x 24 mm
protection level	IP20
API	open
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, computers and mobile devices supporting HTML5
controller operating temperature	from -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.

SCHEDULE

The controller has the ability to work according to a given schedule.

Adding schedule entries can be performed by clicking the "Add item" button in the "Schedule" section of settings. You can select the days in which the task will be performed, the type of entry (at a specific time, or relative to sunrise / sunset - only having a correctly set location) and set the parameters of the task. The set tasks will be visible as a list, individual entries can be edited, deleted or temporary disabled.

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.

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

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