

) control with μWiFi technology from any place in the world

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DOOR AND GATE CONTROLLER - GARAGE, SLIDING AND DOUBLE-LEAF

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



SAFETY RULES

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 EN 50081-1, EN 50082-1, UL508, EN 60950, will result in the loss of the warranty.

Apply the safety systems described in the PN-EN 13241 standard defining the safety requirements and operational requirements for gates and barriers.

INSTALLATION - BASICS

 Disconnect supply voltage circuit before installing the controller. Remember that any mounting works should be carried out when the main voltage is disconnected (switch off the mains fuse or disconnecting the power supply from the socket).

General connection diagram:

User manual



- 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.
- Read the diagram and then proceed to install the controller. Pay particular attention to the markings on the controller connector. Start by connecting the power wires: (+) (red or black with a white dotted line) and (-) (black).
- Connect, paying attention to polarity, the outputs controlling the drive control unit. Depending on the control unit you have, you should connect one or two outputs. The O1 output is intended for control in the open/stop/ close mode (P-P). The O2 output is an auxiliary output used in drive control units that require short-circuiting the stop circuit while the engine is running or it can be used as an additional function, e.g. "door", if the drive control unit is equipped with such functionality.

Pay attention to the maximum current efficiency of the outputs - the control current cannot exceed 20mA per output. Overloading the output may cause irreversible damage to the controller.

Advanced polarity w which no d

Advanced information for installers regarding output polarity when connecting the drive control unit for which no diagram is available.

The right pin of a given output (O1/O2) should be connected so that it has a higher potential than the left pin. In the case of reverse connection, the controller, due to its internal structure, will short-circuit the given output, which may result in the movement of the drive even without control - in this situation you need to swap the pair of wires connected to the given output.

 To receive feedback from the controller, signaling the gate position of "Open" / "Intermediate position" / "Closed", connect the limit switches (eg reed switches or inductive sensors) according to the general diagram. The IN1 and IN2 input pairs do not have a specific polarity, they are galvanically separated

CONNECTION DIAGRAM

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Example installation diagrams of reed switches for sectional and sliding gates - presented at the end of the manual

from the rest of the controller and operate fully independently of OUT1/ $\ensuremath{\mathsf{OUT2}}$ output pairs.

- The meaning of the states detected on the IN1/IN2 inputs (i.e. which of the IN1 or IN2 inputs signals the closed position and which signals the open position) can be swapped in the controller settings menu, in the "Swap inputs" option.
- Example installation diagrams of reed switches for sectional and sliding gates
 presented at the end of the manual



Advanced information for installers regarding inputs when connecting a drive control unit for which no diagram is available.

For some gate control units it is possible to use the signals from the control units' original electromechanical sensors for end state detection, in a parallel or serial connection. The range of permissable voltages on individual pairs of inputs is 5-24V AC/DC.

In the case of a parallel connection, the IN1 input should be connected in parallel to the existing gate closing sensor (most often marked FCC, SWC, FC) while the IN2 input should be connected in parallel to the existing gate opening sensor (most often marked FCO, SWO, FA), polarity connecting the inputs does not matter. In a parallel connection the measurement current of the gate control unit is divided between the existing factory sensor circuit and the controller measurement circuit, which in some control units with low-power measuring output may result in incorrect operation of the control unit, manifested by the lack of response when reaching the end position. Be careful during the tests so as not to damage the gate mechanics.

In serial connection, cut one of the wires of the existing gate closing sensor (most often marked FCC, SWC, FC) and connect the ends of the wires to the IN1 input, similarly cut one of the wires of the existing

gate opening sensor (most often marked FCO, SWO, FA) and connect the ends of the wires to the IN2 input, the polarity of the inputs is irrelevant. In serial connection, in some control panels with low-power measuring output, the voltage drop obtained on the controller may not be sufficient to recognize the end position, so the correct gate position will not be displayed in the gate preview in the wBox application. In the advanced settings of the controller, described later in this manual, you can change the limit switch detection algorithm, depending on the nature of the current flowing through the inputs. In "Method 1", the end state is detected when direct or alternating current flows between IN1 pins and not between IN2 pins. Similarly, the opposite state will be detected when no current flows between the IN1 pins and there will be no current flow between the IN2 pins. In "Method 2" the end state is detected if only direct current flows between IN1 pins and there is no direct current or alternating current between IN2 pins. Similarly, the opposite state will be detected when there is no direct current flow between the IN1 pins and there will be no direct current flow between the IN2 pins. Any other configuration of the current flow is equivalent to the intermediate position.

Some door control panels do not have the usual electromechanical limit switches. On the other hand these control units have outputs for signaling the reaching of the end position (without distinguishing whether it is closed or open) and an auxiliary output that can be configured as determination of the closed position. An example of this type of control unit is Somfy Control Box 3S RTS, the connection diagram of which is shown in the relevant drawing. In the advanced settings of the controller, described later in the manual, change the limit switch detection algorithm to "Method 3" and in the gate control unit set the behavior of the auxiliary output to "gate open indicator". In "Method 3" the "Intermediate position" state will be detected if no current flows through input IN1 pins (the current flow through input IN2 is not taken into account). The "Open" position will be detected when direct or alternating current flows through both inputs IN1 and IN2. The "Closed" position will be detected when direct or alternating current flows through the IN1 input pins and there is no current flow through the IN2 input.





The door status detected by the controller, depending on the selected limit switch detection method, is presented in the table below:

	OPEN		CLOSED	
	IN1	IN2	IN1	IN2
METHOD 1	DC or AC	0	0	DC or AC
METHOD 2	DC	0 or AC	0 or AC	DC
METHOD 3	DC or AC	DC or AC	DC or AC	0

DC - direct current flow,

AC - alternating current flow,

0 - no direct and/or alternating current flow.

 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).



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, enter to your smartphone or tablet settings, then go to setting of the WiFi network and find the network name "gateBox-xxxxxxxxx" where xxxxxxxxx is the serial number of the device. Connect to this network.
- Open 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".

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
- 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).
- 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 the "Gate settings" section select the appropriate option in the "Gate type" field. Then, depending on the gate control box You have, select the function of the second (auxiliary) output - if the second output was not connected, select "None".
- Methods for detecting limit switches connected to IN1/IN2 inputs are described in Advanced information for installers regarding inputs. There is usually no need to change the default setting Method 1.
- In case you need to make changes in the advanced controller settings, click on "Show advanced" button. Will appear additional options.
- In the "Gate output type" field, the output behavior can be changed between the normally open output (NO - when the output is not shorten) or normally closed (NC - in other words the contact pair is shorten, opens when the user presses the control button). It is also possible to adjust the duration of the impulse in the output - between 0.1 sec. to 15 seconds - after a single press of the control button. The option "Swap outputs (O1, O2)" allows you to correct the order of pairs of wires without switching them again, for example when the gate control wire has been connected to the O2 output instead of under O1. Similarly, it is possible to swap the inputs, which can be modified with the "Swapping limit switches" option.
- In the "Gate settings" section, in the field "Address (URL) of the MJPEG stream" you can enter the URL stream of the camera IP which supervise the motor.

ACCESS MANAGEMENT

- In the "Manage local access" section of the driver settings, you can create additional authorization for driver users. If you create users, the ability to add a controller to the wBox application, and thus control the drive, will only be available after entering the correct login and password.
- To add a new user, fill in the "Username" and "Password" fields in the new window and press the "Save" button. If at least one user account is added, the controller will require logging in each time the controller is added to the wBox application. Only after logging in to the controller will it be possible to control the drive.

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. when gate is moving.
- When adding an action, in the "When" tab, select "Gate action", "Not closed for" or "Unexpected action" as the "Trigger type". Depending on the trigger, complete the action type or set the time.
- 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 are presented below:

Switching on the circiut via switchBox: 1

Switching off the circuit via switchBox: 0

Trigger the switchBox state: 2

- 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 is presented below. It was assumed that the IP address of the device which will be controlled is: 192.168.1.123

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

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

Trigger the switchBox state: 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.



NOTIFICATIONS

- The controller allows you to display a system notification on a phone with the wBox application installed on the particular trigger, e.g. leaving the gate open for too long.
- 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.

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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.

TECHNICAL SPECIFICATIONS supply voltage 12-24V AC/DC energy consumption <1W number of control outputs 2 type of control outputs open collector, pulse maximum load 20mA 2 number of inputs type of inputs logical polarization inputs detected automatically galvanic isolation yes component adhesive (tape) or in mounting method housing made of polyurethane composition not containing halogens, self-extinguishing housing for thermal class B (130 °C) dimensions 50 x 36 x 18 mm lack, integrated antenna antenna connector protection level IP20

API	open	
communication standard	μ WiFi, 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 stan- dard router, connection with access from any location in the world (requires only access to the Internet)	
encryption	WPA2-PSK and authenticated encryp- tion 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	

	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	
5	made in Europe	

Examples of connecting magnetic contacts to sectional and sliding gates - presented at the end of the instructions

ADDITIONAL INFORMATION

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.

















