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User Manual

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

gatebox PRO v3 DOOR AND GATE CONTROLLER – GARAGE, SLIDING AND DOUBLE-LEAF, WITH EXTERNAL ANTENNA

control using µWiFi technology, from anywhere in the world

SAFETY RULES

Connect according to the diagram shown in the manual. Incorrect connection may be dangerous and may result in damage to the controller and loss of warranty.

DANGER! Risk of electric shock (even when the device is turned off); voltage may be present on the outputs. All installation work must ALWAYS be performed with the power supply disconnected.

Connecting the device to a power supply that does not meet the quality requirements specified in standards EN 50081-1, EN 50082-1, UL508, EN 60950 will result in the loss of warranty.

Use safety systems in accordance with the PN-EN 13241 standard, which specifies safety and operational requirements for gates and barriers.

1 INSTALLATION - BASICS

Wiring diagrams can be found at the end of the manual

- Before starting the installation of the controller, disconnect the power in the circuit. Remember that all installation work must be performed with the power supply turned off (switching off the circuit breaker of the power supply circuit or unplugging the power supply from the electrical socket).
- The controller should be installed in a location protected from accidental damage, e.g., mounted on a fence post or inside the enclosure of the controlled device. Keep in mind that metal elements (wires, parts of the enclosure) negatively affect the device's range and, consequently, user comfort. It is recommended to mount the device in a stable, immobile position, with the antenna oriented vertically. When installing the device outside dry indoor spaces, special attention should be paid to ensuring tight seals around the rubber cable glands.
- Review the diagram before starting the installation of the controller. Pay special attention to the connector markings. Begin by connecting the power supply wires +12V/+24V (red or black with a white dashed line) and the ground wire (black).
- Connect the outputs that control the drive control unit. Depending on your control unit, you may need to connect one or two outputs. Output O1 of the controller is intended for operation in open / stop / close mode. Output O2 is an auxiliary output, used in drive control units that require a stop circuit closure during motor operation, or it can serve as an additional function, e.g., for a "gate", if the drive control unit supports such functionality. The polarity of the controller outputs does not matter, as the outputs are potential-free, SSR type.
- Pay attention to the maximum current rating of the outputs – the control current must not exceed 100 mA per output. Overloading an output will trigger the built-in polymer fuse!
- To receive feedback from the controller indicating the drive position in "Open" / "Intermediate Position" / "Closed," connect limit switches (e.g., reed switches or inductive sensors) according to the general diagram. The input pairs IN1A/IN1B and IN2A/IN2B are voltage inputs with no specific polarity, galvanically isolated from the rest of the controller, and operate completely independently of the OUT1/OUT2 output pairs.
- The meaning of the limit 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, under the "Swap Inputs" option.

Advanced information

Advanced information for installers regarding the inputs, for cases when connecting a drive control unit for which a wiring diagram is not available.

For some gate control units, it is possible to use signals from the original electromechanical sensors of the control unit to detect limit states with the controller, connected in parallel or series. The allowable voltage range for each input pair is 12–48 V AC/DC.

In the case of a parallel connection, the IN1A/IN1B input should be connected in parallel with the existing gate closed sensor (usually labeled FCC, SWC, FC), while the IN2A/IN2B input should be connected in parallel with the existing gate open sensor (usually labeled FCO, SWO, FA). The polarity of the input connections does not matter. In a parallel connection, the gate control unit's measurement current is divided between the existing factory sensor circuit and the controller's measurement circuit, which in some control units with low-power measurement outputs may cause improper operation, manifesting as a failure to respond when reaching the limit position. Exercise caution during testing to avoid damaging the gate mechanism.

In a series connection, one of the wires of the existing gate closed sensor (usually labeled FCC, SWC, FC) must be cut and the wire ends connected to the IN1A/IN1B input. Similarly, one of the wires of the existing gate open sensor (usually labeled FCO, SWO, FA) must be cut and the wire ends connected to the IN2A/IN2B input. The polarity of the input connections does not matter. In a series connection, in some control units with low-power measurement outputs, the voltage drop at the controller may be insufficient to detect the limit position, resulting in the incorrect gate position being displayed in the wBox app.

In the advanced settings of the controller, described later in the manual, the limit switch detection algorithm can be changed depending on the type of current flowing through the inputs. In "Method 1," a limit state is detected if a DC or AC current flows between IN1A and IN1B, while no current flows between IN2A and IN2B. Conversely, the opposite state is detected when no current flows between IN1A and IN1B, and current flows between IN2A and IN2B. In "Method 2," a limit state is detected if only DC current flows between IN1A and IN1B, while no DC current flows between IN2A and IN2B, or if AC current flows there. Conversely, the opposite state is detected when no DC current flows between IN1A and IN1B, and DC current flows between IN2A and IN2B. Any other current flow configuration is interpreted as the drive being in the intermediate position.

In some gate control units, typical electromechanical limit switches are not present. However, these control units have outputs that signal the attainment of a limit position (without distinguishing whether it is the closed or open position) and an auxiliary output that can be configured to indicate the closed position. An example of such a control unit is the Somfy Control Box 3S RTS, with the corresponding wiring diagram shown in the figure. In the advanced settings of the controller, described later in the manual, the limit switch detection algorithm should be set to "Method 3," and in the gate control unit, the auxiliary output should be configured as the "gate open indicator." In "Method 3," the "Intermediate Position" is detected if no current flows through the IN1A/IN1B input (current flow through IN2A/IN2B is ignored). The "Open" position is detected when DC or AC current flows through both inputs IN1A/IN1B and IN2A/IN2B. The "Closed" position is detected when DC or AC current flows through IN1A/IN1B, while no current flows through IN2A/IN2B.

The gate state detected by the controller, depending on the selected limit switch detection method, is shown in the table below:

	OPEN		CLOSED	
	IN1A/IN1B	IN2A/IN2B	IN1A/IN1B	IN2A/IN2B
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 DC and/or AC current flow.

- After ensuring that the device has been connected according to the diagram and that there are no metal elements near the controller that could accidentally short the contacts, power on the device by supplying voltage (switching on the circuit breaker of the power supply circuit or plugging the power supply into the electrical 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.
- Using a smartphone or tablet, connect to the device's wireless network. To do this, go to the Wi-Fi settings on your smartphone or tablet, find the network named "gateBoxPro_v3-xxxxxxxxxx" (where xxxxxxxxxx is the device's serial number), and connect to it.
- Open the wBox app. The device will be visible at the top of the screen. To add it to the app, click the "+" icon on the right side next to the device name. To perform the initial configuration of the controller, tap on the default device name.
- Go to Settings (the "Settings" icon in the top-right corner of the screen), navigate to the "Gate Settings" section, and select the appropriate option in the "Gate Type" field. Then, depending on your control unit, choose the function of the second (auxiliary) output. After saving the settings, return to the main panel by tapping the arrow in the top-left corner. Test the controller by tapping the gate/door icon – the control unit should activate the drive movement.
- In the "Gate Settings" section, in the "MJPEG Stream Address (URL)" field, you can enter the URL of the IP camera monitoring the drive.
- If you need to change the controller's advanced settings, click the "Show Advanced" button. Additional options will expand.
- In the "Gate Output Type" field, you can change the behavior of the output between normally open (NO – the output does not conduct in its resting state) and normally closed (NC – the contact pair is closed in its resting state and opens when the control button is pressed). It is also possible to adjust the pulse duration on the output from 0.1 s to 15 s for a single press of the control button. The "Swap Outputs" option allows you to correct the order of the wire pairs without physically reconnecting them, for example, if the gate control wire was connected to output O2 instead of O1.
- Return to the main panel by tapping the arrow in the top-left corner. If the drive position sensor circuit has been connected, test the gate operation by tapping the gate/door icon – the control unit should activate the drive. Pay attention to the blue outline of the icon. If the drive is in the intermediate position, the icon outline will be half blue and half gray. The extreme "Open" position is indicated by a gray outline, while the "Closed" position is indicated by a blue outline.
- If you need to change the controller's advanced settings related to the inputs, go back to the controller settings, navigate to the "Gate Settings" section, and then click the "Show Advanced" button. Additional options will expand. You can change the limit switch detection method for the inputs IN1/IN2 if the controller does not detect the drive position despite correct wiring. If the drive position is detected incorrectly—for example, the drive is physically in the closed position but the visualization shows it as open—this means the IN1/IN2 input pairs have been swapped. In this case, enable the "Swap Inputs (IN1, IN2)" option.

3 ACCESS POINT AND WIFI NETWORK SETTINGS

QUICK INSTALLATION GUIDE
first configuration of the BleBox controller

Scan the QR code or click the link below to access the quick installation guide.

https://blebox.eu/start

- After completing the initial power-up of the controller, you can proceed with further configuration. While connected to the WiFi network generated by the device, select the device on the wBox app control panel, then go to Settings (the "Settings" icon in the top-right corner of the screen).
- You can also configure the network settings using a web browser. After connecting to the controller's wireless network, open a browser and go to www.blebox.eu
- You can change the device name as it appears in the wBox app. Additionally, you can change the WiFi network name and password. Note that changing the network name or password will immediately disconnect you from the device after clicking the "Save" button, so you will need to reconnect using the new network name and password.
- You can connect the controller to your home WiFi network to control it locally or from anywhere in the world. In the "Connect" settings section, select the network name from the list and tap "Connect." If required, enter the WiFi password. While the controller is connecting to the home network, your phone or tablet may be disconnected from the device's network. In this case, you will need to reconnect your phone or tablet to the controller's network.
- Remember that to control the device from outside your local WiFi network, from anywhere in the world, via the wBox app, the "Enable Remote Access" option on the controller must be set to "Yes."
- After completing the WiFi network configuration, you can disconnect from the controller's network and connect your phone or tablet directly to your home WiFi network. Control via the wBox app will work the same as when the phone or tablet is connected to the controller's network. If the user leaves the local network, e.g., by leaving the house or enabling mobile data, the wBox app will indicate this as "Remote Mode." In this case, the devices can still be controlled, but for security reasons, the settings options will not be available.

4 ACCESS MANAGEMENT

- Return to the controller settings. In the "Access Management" section, you can create additional accounts for drive users. This provides an extra layer of security for accessing the controller. If you create users, adding the controller to the wBox app—and thus controlling the drive—will only be possible by entering a valid username and password.
- To add a new user, go to the "Access Management" section, tap the "Add" button, then fill in the "Username" and "Password" fields in the new window and press "Save." If at least one user account is added, the controller will require login each time the controller is added to the wBox app. Only after logging into the controller will it be possible to control the drive.

5 VOICE ASSISTANTS

- The controller can work with voice assistant systems: Google Home and Amazon Alexa. Proper operation requires correctly functioning limit switches (accurate gate state signaling: open/closed/intermediate). Additionally, the "Remote Access" option must be enabled, and no user accounts should be created in the "Access Management" section (the controller cannot have additional security). Detailed instructions for configuring the controller with each assistant are provided in the relevant manuals available at blebox.eu.

TECHNICAL SPECIFICATIONS

supply voltage	12 - 48V AC / DC
energy consumption	< 1W
mean current consumption	30mA @ 12V
maximum current consumption	200mA @ 12V
supply polarization	n/a
number of outputs	2
type of outputs	SSR - dry contact, pulse
maximum switching voltage	48V AC / DC
maximum load	100mA
on-state resistance	< 1,4Ω
output polarization	n/a
galvanic isolation	yes
number of inputs	2
type of inputs	voltage, logic
voltage range	12 - 48V AC / DC
input polarization	n/a - autodetection
galvanic isolation	yes

dimensions	50 x 92 x 28 mm (without antenna), 85 x 230 x 28 mm (with the antenna located vertically), antenna length 197 mm
protection level	IP54 according to PN-EN 60529
housing	plastic, potted with polyurethane composition not containing halogens, self-extinguishing for thermal class B (130 °C)
mounting method	two oval mounting holes with dimensions of 18 mm x 3,5 mm (width x height) or self-adhesive element (tape)
controller operating temperature	-20°C to +50°C
antenna output	yes
antenna connector type	RP-SMA
antenna	omnidirectional, 5dB gain - included in the kit
communication standard	µWiFi, compatible with WiFi, 802.11g
radio frequency	2.4 GHz
transmission type	bi-directional, 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)
API	open https://technical.blebox.eu/
kompatybilne urządzenia i systemy	iOS (e.g. iPhone, iPad), Android, macOS (ARM processors labeled M1 or newer)

ADDITIONAL INFORMATION

FIRMWARE UPDATE

To update the controller's firmware, connect it to your home WiFi network (see the "Access Point and WiFi Settings" section) with an Internet connection. Go to Settings (the "Settings" icon in the top-right corner of the screen) and click the "Download New Firmware" button located at the bottom of the settings section. Wait approximately 1 minute without closing the interface or performing any other actions. The device will download the latest firmware. You can view the firmware version, hardware version, and device ID at the very bottom of the settings screen.

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:
http://blebox.eu/start/reset

The controller reconfiguration manual is available at:
http://blebox.eu/start

Warning: Restoring factory settings resets the controller configuration but does not unlink it from the user accounts it is assigned to. If the owner (the first user who added the device to their account) removes the controller, it is removed from all other users as well.

To remove the controller from your account in the wBox app: open the main menu, go to "Manage devices", select the controller, and click "Remove device." Alternatively, sign in to portal.blebox.eu, go to "Devices," select the controller, open "Actions" (top right), and click "Remove device." If you are not the owner, this removes the controller only from your account.

for more information visit our website

www.blebox.eu

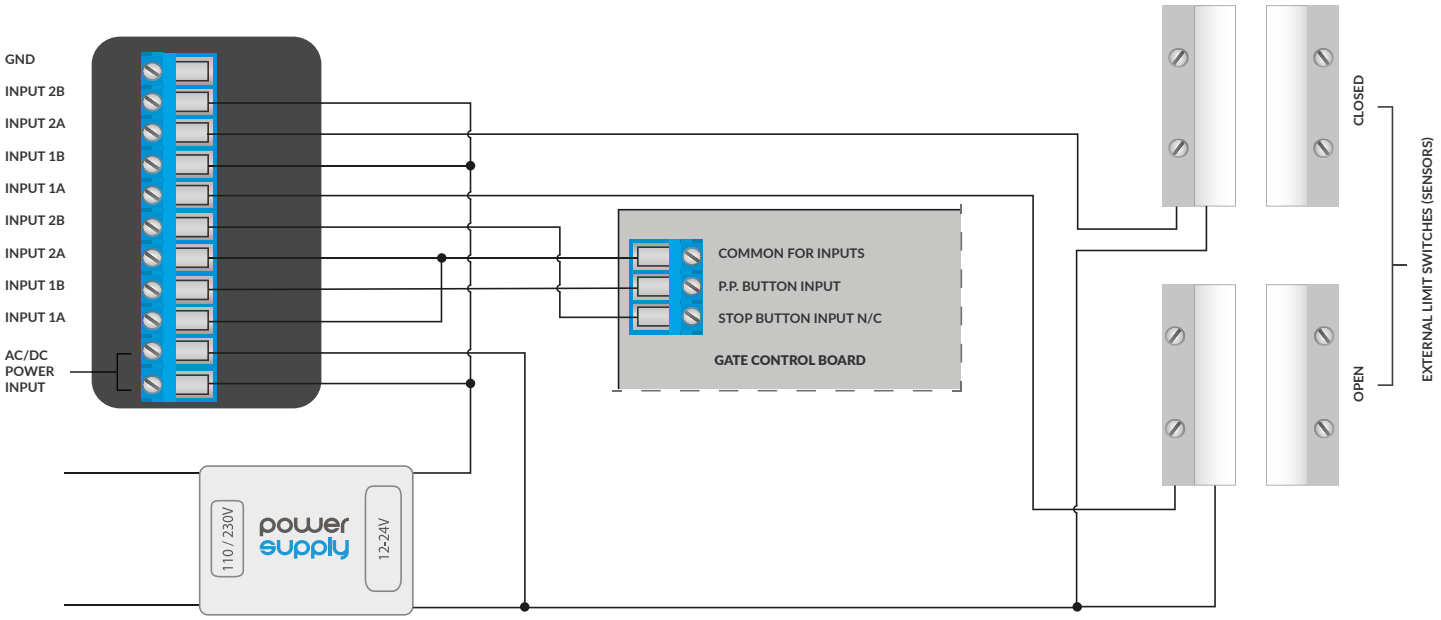
or send us an email to: info@blebox.eu

support is available at support@blebox.eu

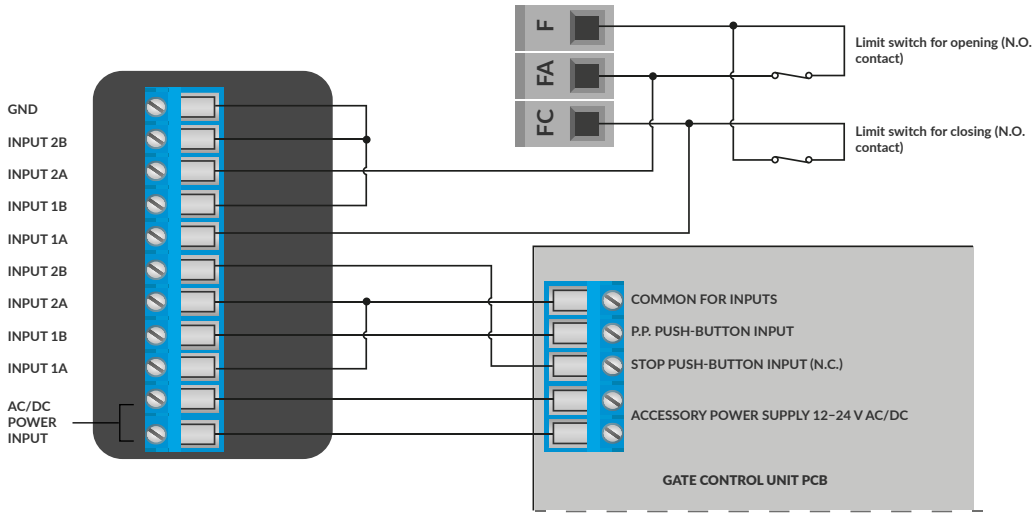
made in Europe

Connection diagrams

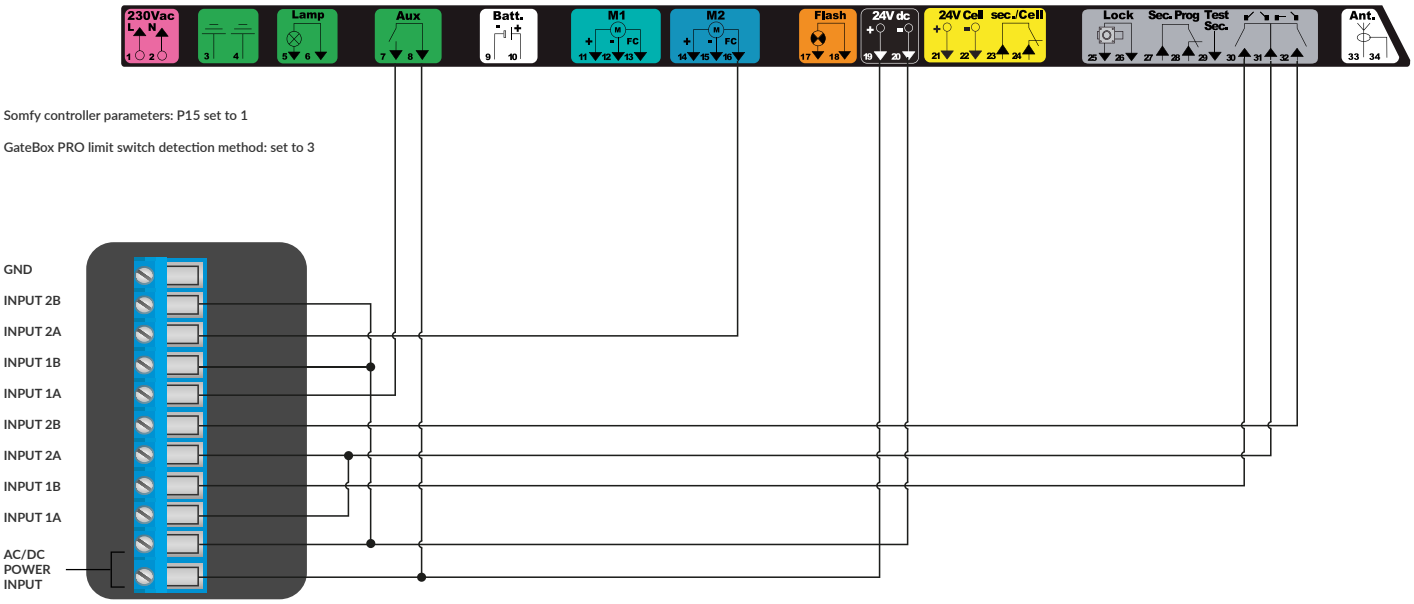
1. General wiring diagram



2. Connection diagram for a typical control unit



3. Wiring diagram for connection to a control unit with an output indicating the end position reached and an auxiliary output for closed-position signaling, based on the Somfy Control Box 3S RTS



Somfy controller parameters: P15 set to 1

GateBox PRO limit switch detection method: set to 3