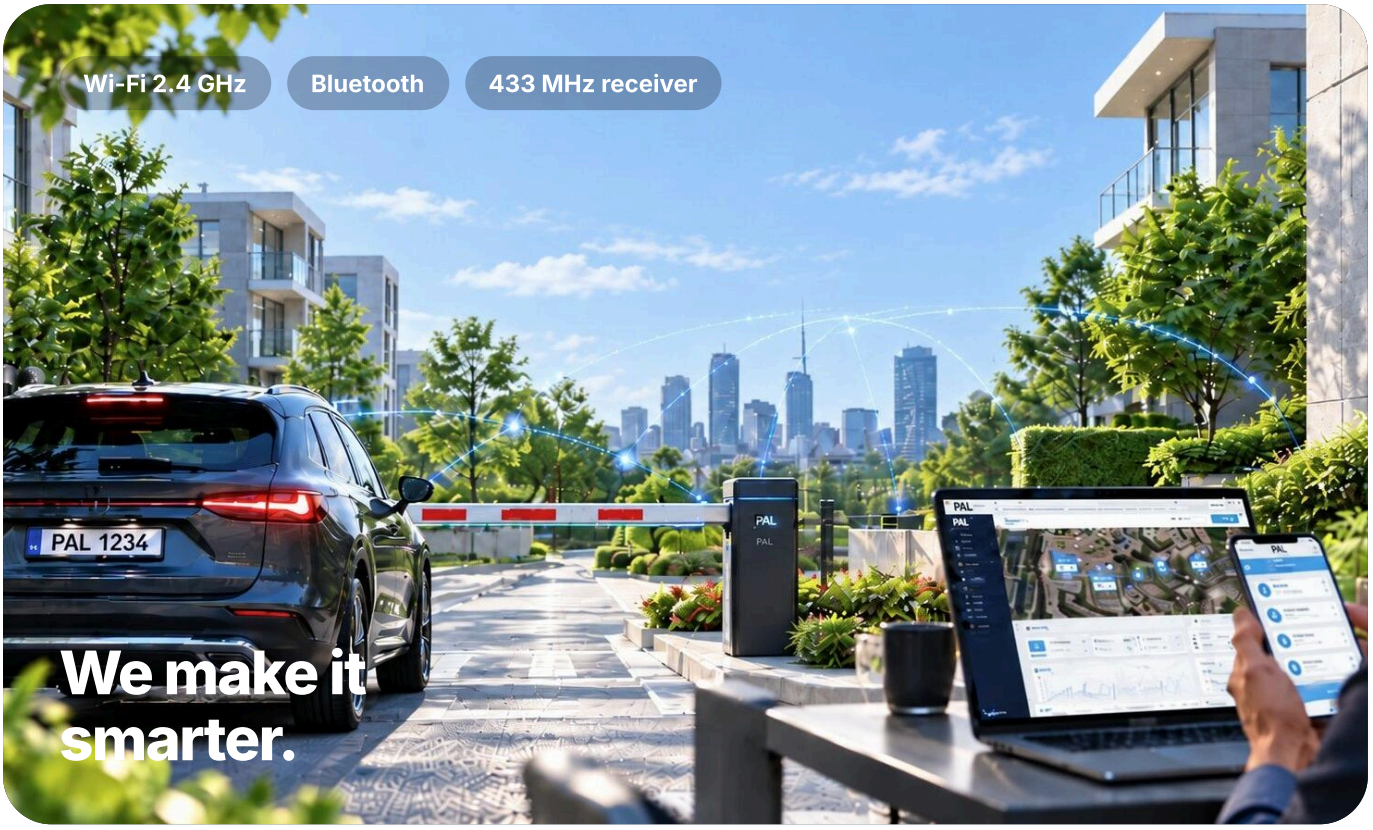
PAL ELECTRONIC SYSTEMS

VERSION 3

INSTALLATION & USER GUIDE

WiBee

Wi-Fi and Bluetooth control unit with a built-in 433 MHz remote-control receiver, for gates, doors and lighting systems.



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Safety information

Warning
Only an authorized installer may install, maintain or repair this unit.

Caution
Use a stable 12 VDC, 1 A power supply. Install the unit in a waterproof, dustproof enclosure to protect it from humidity, rain and insects.

Note
A metal cabinet or housing blocks the wireless signal. If you install the unit in a metal cabinet, connect an external antenna and mount it outside the cabinet.

CHAPTER 1

Product description

The WiBee is an IoT control unit for gates, doors and lighting systems and any other equipment that benefits from remote control and management. The unit connects over 2.4 GHz Wi-Fi and Bluetooth, includes a 433 MHz remote-control receiver, and controls the connected equipment through a dry-contact relay. Management is through the PalGate App or through the easy-to-use PAL Web Portal.

> ⚠ **Important**
> An annual subscription is required to use this product.

1.1 Key benefits

- Remote access and control from any location, at any time, while the unit is connected to Wi-Fi
- Automatic opening on arrival when the PalGate App is connected to the car's multimedia system via Bluetooth
- Management through the PalGate App or the PAL Web Portal*
- Multiple administrators and authorized users
- Voice control with Siri and Google Assistant
- User import and export with Excel files*
- "Nearby Only" feature: Allows you to restrict gate access to users who are within a configurable distance of the gate
- Compact size: 53 × 80 × 25 mm (2.09 × 3.15 × 0.98 in)
- Four LED indicators for power, connection status and signal strength
- Real-time email and push notifications while the unit is connected to Wi-Fi
- Scheduling: timers, events, calendar, holidays and a programmable astronomical clock**
- Programmable relay activation time (default: 2 seconds)

* Optional feature; additional charges may apply (for example, management through the PAL Web Portal).
** For accurate time, the unit must be connected to Wi-Fi.

CHAPTER 2

Product features



Figure 1 · The WiBee unit

- Control with the PalGate App (iOS and Android)
- Unlimited number of users: each unit includes 5 app users, and you can add more*
- One output relay (N.O./N.C.)
- One input, with real-time email and push notifications while the unit is connected to Wi-Fi
- Opening methods: proximity, app, Siri, Google Assistant, smart watches (Apple and Google), remote control and wireless vehicle detector
- Supports up to 4,000 smart 433 MHz 128-bit encrypted remotes that cannot be cloned
- Adjustable opening distance: “Nearby only” or unlimited distance
- User access restrictions by day and time**
- Timers, events and astronomical clock**
- Compatible with 2.4 GHz Wi-Fi
- Supply voltage: 12 VDC
- Part number: WB011-R (all regions)

* Optional feature; additional charges may apply (for example, management through the PAL Web Portal).
** For accurate time, the unit must be connected to Wi-Fi.

CHAPTER 3

Technical specifications

12 VDC
Supply, 1 A

~40 mA
Standby current

53 × 80 × 25
2.09 × 3.15 × 0.98 in
Dimensions

BLE 5
Bluetooth

433 MHz
Remote receiver

CE FC
Certification

PARAMETER	VALUE
Supply voltage	**12 VDC, 1 A**
Average standby current	**~40 mA**
Relay contact rating (resistive)	**1 A at 30 VDC; 0.5 A at 125 VAC**
Antenna	**SMA, 50 Ω**
Operating temperature	**−20 °C … +70 °C (−4 °F … +158 °F)**
Dimensions	**53 × 80 × 25 mm (2.09 × 3.15 × 0.98 in)**
Net weight	**72 g / 2.54 oz**
Wi-Fi	**IEEE 802.11b/g/n, 2.4 GHz**
Bluetooth	**Bluetooth® 5 (LE)**
Remote receiver	**433 MHz**
Certification	CE FC **FCC ID: 2AUD3-SPIDER**
Part number	**WB011-R (all regions)**

CHAPTER 4

Terminals

The WiBee has a **± 12 VDC** power input, one output relay, one input, a Wi-Fi/network LED and three signal-strength LEDs.



Figure 2 · Terminal layout

TERMINAL	FUNCTION
± 12 VDC	Power input
N.O.1 · COM 1 · N.C.1	Output relay (dry contact)
INPUT 1 · GND	Input (for example, a magnetic sensor)

CHAPTER 5

Wiring

Warning
Disconnect all power before you start wiring. Do not exceed the maximum relay load: 1 A at 30 VDC; 0.5 A at 125 VAC.

5.1 Connecting an electric lock

1. **Connect power to the unit**
   Connect a **12 VDC/1 A** power supply to the **+** and **–** terminals. Polarity does not matter.

2. **Connect the lock to a separate power supply**
   Connect the (+) terminal of the lock power supply directly to the lock.

3. **Connect the (–) wire through the relay**
   Connect the (–) terminal of the lock power supply to **N.O.1**. Connect **COM 1** to the other lock wire.

4. **Connect a magnetic sensor** (optional)
   Connect the sensor to **INPUT 1** and **GND**. The unit then sends door status notifications.

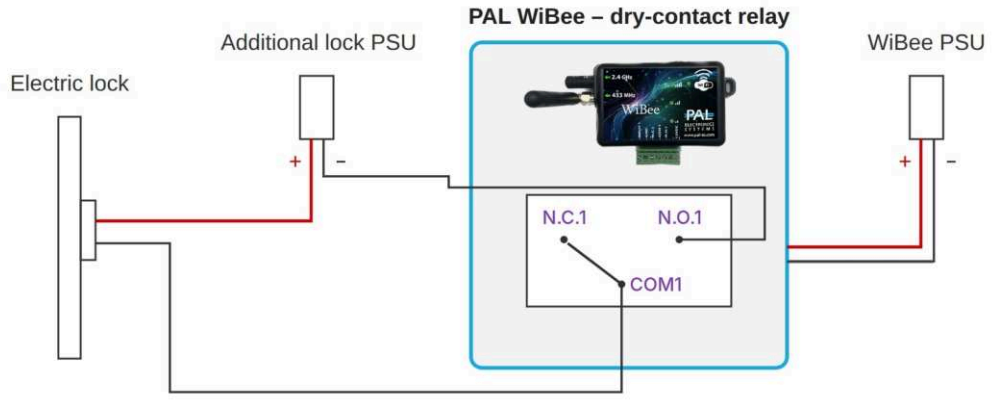


Figure 3 · Electric lock wiring: separate lock power supply, with the (–) switched through the relay N.O. contact

Note
For electromagnetic locks, or other devices that open when power is removed, use **N.C.1** and **COM 1**.

5.2 Connecting a gate operator

1. **Connect power to the unit**
   Connect a `12 VDC` power supply to the **+** and **–** terminals. Polarity does not matter.

2. **Connect the unit to the gate control board**
   Connect from WiBee `COM 1` to `COM` on the gate control board. Connect from WiBee `N.O.1` to `OPEN` on the gate control board.

3. **Connect a magnetic sensor** (optional)
   Connect the sensor to `INPUT 1` and `GND`. The unit then sends gate status notifications.

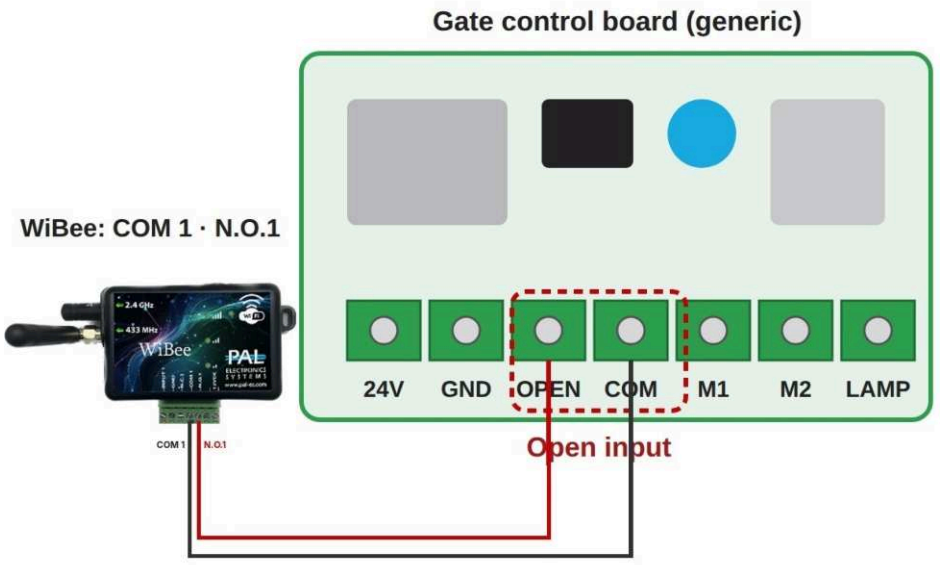


Figure 4 · Connecting the WiBee to the open input of a gate control board (generic drawing)

> ⚠ **Caution**
> Terminal names differ between manufacturers. To identify the open input, refer to the control board manufacturer's instructions.

> ⓘ **Note**
> The WiBee relay output is a dry contact. It works in the same way as the open push-button and does not supply power to the control board.

CHAPTER 6

LED indications

6.1 Wi-Fi / network LED

LED STATE	MEANING
Fast flashing	System is starting up
Steady on	Unit is on and ready to connect to Wi-Fi

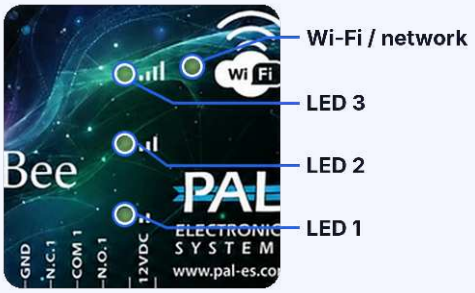


Figure 5 · LED positions

6.2 Wi-Fi signal strength

Low signal
LED 1 on

Good signal
LEDs 1–2 on

Very good signal
LEDs 1–3 on

> ⚠ **Caution**
> A low signal (LED 1 only) can cause unreliable operation. Move the unit closer to the router or use a Wi-Fi range extender.

CHAPTER 7

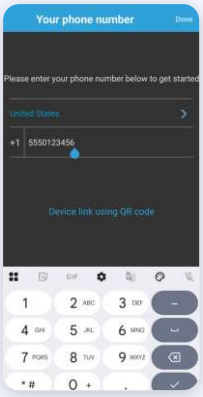
PalGate App

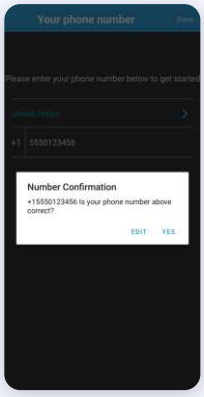
You set up the WiBee and manage its users in the free PalGate App. Download the PalGate App from the App Store or Google Play (search for “PalGate”), or scan the QR code.

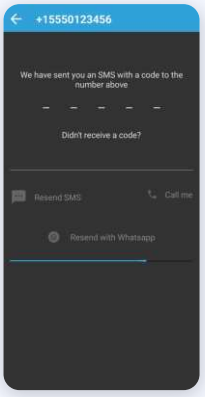
Download on the App Store

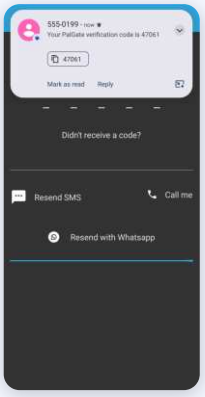
ANDROID APP ON Google play

7.1 Installing the PalGate App







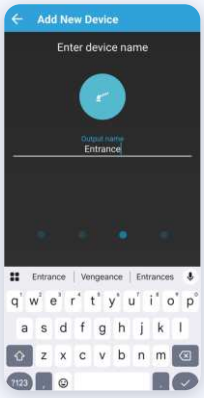


1. **Enter your phone number**
   Enter your mobile phone number.
2. **Confirm the number**
   Tap “Yes” to confirm.
3. **Wait for the code**
   A verification code is sent to you by SMS.
4. **Enter the code**
   Enter the verification code to complete the setup.

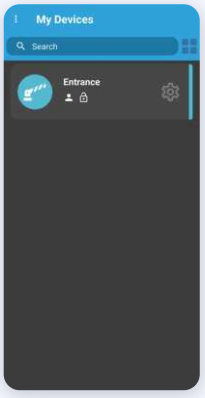
7.2 Adding a new device

You add the WiBee in the PalGate App. You need the serial number and code printed on the unit label.





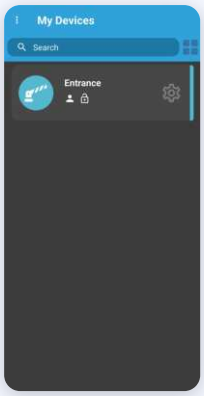




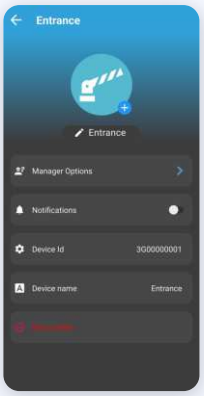
1. **Scan the QR code**
   Scan the QR code on the unit, or tap “Manual” to type the details.
2. **Name the gate**
   Enter a name for the gate and add a photo (optional).
3. **Enter the details**
   Type the serial number and code exactly as printed on the unit. Tap “Next”.
4. **Done**
   The gate appears on the “My Gates” screen.

7.3 Adding users

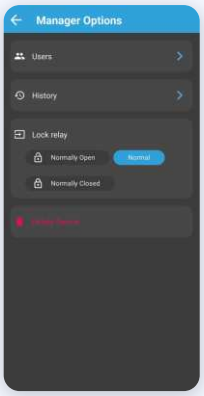
Only users defined as managers can add users. Every new user receives a notification and can open the gate from the PalGate App.



1 Open the gate settings
On the “My Gates” screen, tap the gear icon next to the gate.



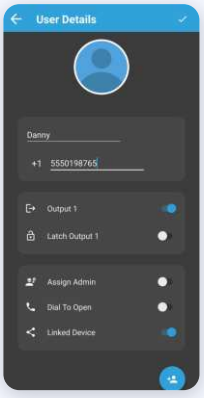
2 Tap “Manager Options”



3 Tap “Users”



4 Tap “+”
Tap “+” in the top-right corner to add a user.



5 Enter the user details
Enter the name and phone number, or select a contact from your phone. Tap “Save”.



6 Done
The user receives a notification and appears in the user list.

> **Note**
> You can allow each user to open from any distance or only when nearby (“Nearby only”), and assign an access schedule. You can also import and export users as Excel files, and manage users in the PAL Web Portal.

7.4 Opening methods

- **PalGate App**
- **Proximity & automatic**
- **Siri**
- **Google Assistant**
- **Smart watches (Apple and Google)**
- **433 MHz remote control**
- **Wireless vehicle detector**
- **Apple CarPlay**
- **Android Auto**

> ⚠ **Caution**
> Before you install the system, make sure that the gate or door has working safety and protection devices.

Installation checklist

- [ ] A stable 12 VDC, 1 A power supply is connected
- [ ] The unit is installed in a waterproof, dustproof enclosure
- [ ] An external antenna is fitted if the unit is in a metal cabinet
- [ ] The signal LEDs show good or very good Wi-Fi reception (2–3 LEDs on)
- [ ] The device is added in the PalGate App and a test opening was successful

SERIAL NUMBER	INSTALLATION DATE
SITE	**INSTALLER**

CHAPTER 8

Professional Installation Notice

1. Mandatory Professional Installation Notice

IMPORTANT: This device must be professionally installed. This product is not intended for sale to the general public and must be distributed exclusively through authorized dealers, value-added resellers (VARs), or certified system integrators. No end-user self-installation is permitted under FCC regulations.

2. Installer Qualification Requirements

Only personnel who have completed PAL Electronic Systems product-specific installation training are authorized to install this device. This training, provided through PAL Electronic Systems technical support team, covers commercial wiring, overs RF system integration, antenna installation and positioning, relay and power supply integration, gate/door automation systems, and the device's configuration software. Personnel who have not completed this training are not authorized installers. Ordinary consumers do not have the necessary skills or professional tools to ensure the device is installed in full compliance with FCC regulatory requirements.

3. Authorized Antenna & RF Accessory List

Only the following pre-approved antennas and RF accessories are permitted for use with this device. Unauthorized modifications or use of unlisted components will void the user's operational authorization:

Antenna Manufacturer	Antenna Type	Operating Band	Maximum Antenna Gain
SXN	MONOPOLE	2412~2462MHz	3dB

All RF cables and adapters used must maintain a total system insertion loss equal to or higher than the value documented in the FCC certification filing. Installers are responsible for verifying that the final antenna gain does not exceed the maximum approved value.

4. RF Radiation Exposure Compliance

This equipment must be installed with a minimum separation distance of 25cm between the radiating antenna and all nearby people. The antenna must not be co-located or operated in conjunction with any other transmitting antenna, to fully comply with FCC RF exposure limits for an uncontrolled environment.

5. Installation Compliance Restrictions

Follow the complete step-by-step installation procedure provided in this manual to ensure the final deployed configuration matches the exact test state documented in the FCC certification. This device is restricted to commercial/industrial/professional deployment scenarios only, and must not be made available for general consumer use. Any changes or modifications not expressly approved by the compliance responsible party will revoke the user's FCC authorization to operate this equipment.

PALGATE APP

Open your world.

Manage and open all your gates and doors from a single app. Download the PalGate App from the App Store or Google Play.

PAL ELECTRONIC SYSTEMS

We make it smarter.

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