

# *Garadget User Manual*



# Congratulations on your new Garadget!

Let's get started with the setup which consists of account setup and controller installation. Please refer to troubleshooting section at the end if you encounter any problems in the process. Your reports, feedback and ideas are greatly appreciated and will be used to improve Garadget.

Your kit should include:

- Garadget controller
- USB power adapter
- micro-USB cable
- 2 double-sided adhesive pads
- 2 adhesive reflective pads
- approx 0.5m of 2 wire control cable
- mini screwdriver

## Account Setup

### Requirements

For successful account setup you'll need:

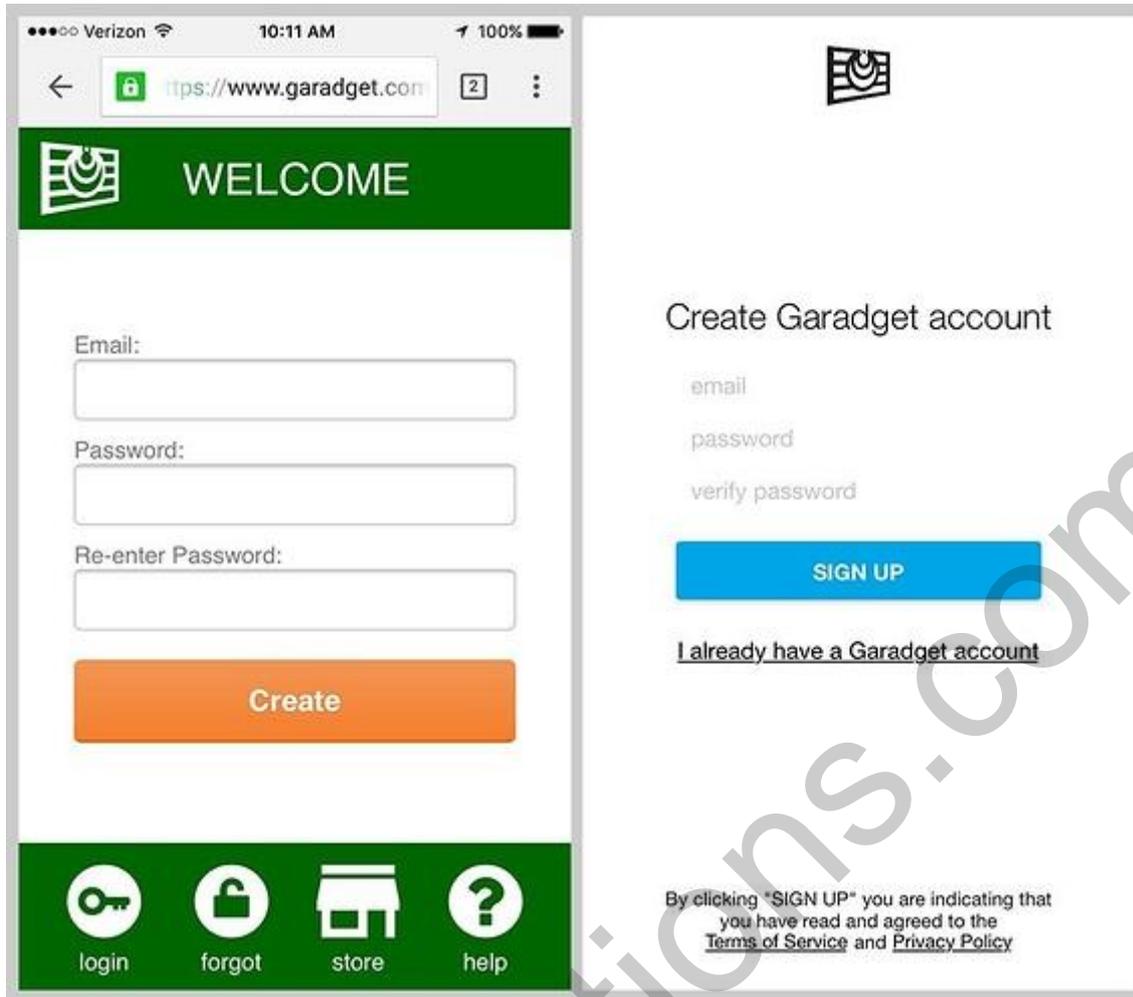
- Garadget controller
- Internet connected smartphone, tablet or WiFi capable computer with modern web browser
- WiFi hot spot with robust signal at the installation location
- Email account not previously used with other Particle Cloud based products

### Setup Steps

Depending on the platform of your choice please install and/or open one of the following Garadget apps:

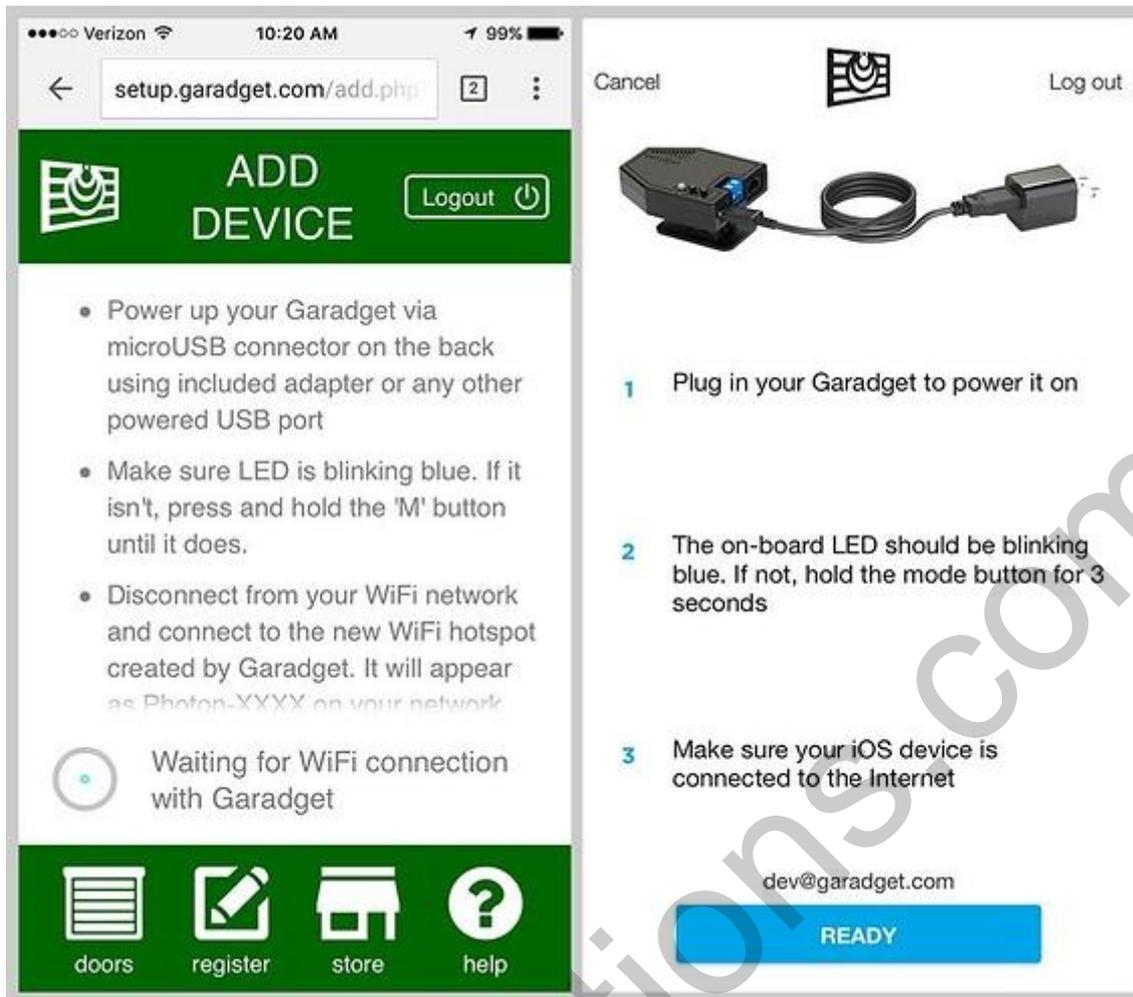
- [iPhone App150](#)
- [Android App107](#)
- [Cross-platform Web App107](#)

Initially you will be greeted with the account registration form. In this step you create a new account credentials for accessing your garage door opener. Make sure to create the password that is hard to guess yet you can remember.



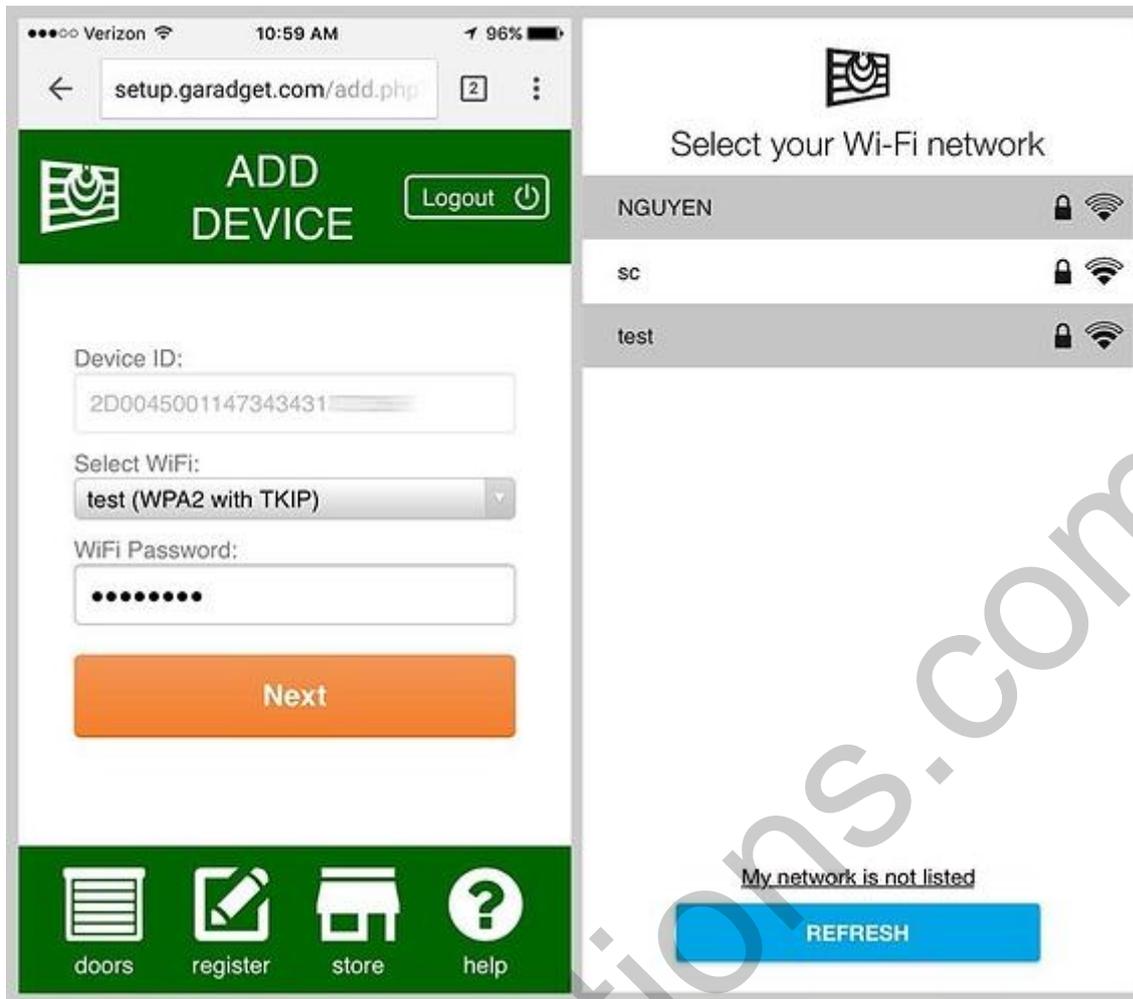
After you have created an account, proceed to adding your first Garadget to it. For this step please make sure that:

- Garadget is located right next to your mobile device and within the strong coverage of your home network
- Garadget is powered on and in listening mode (LED slow blinking dark blue)
- your mobile device remains Internet connected



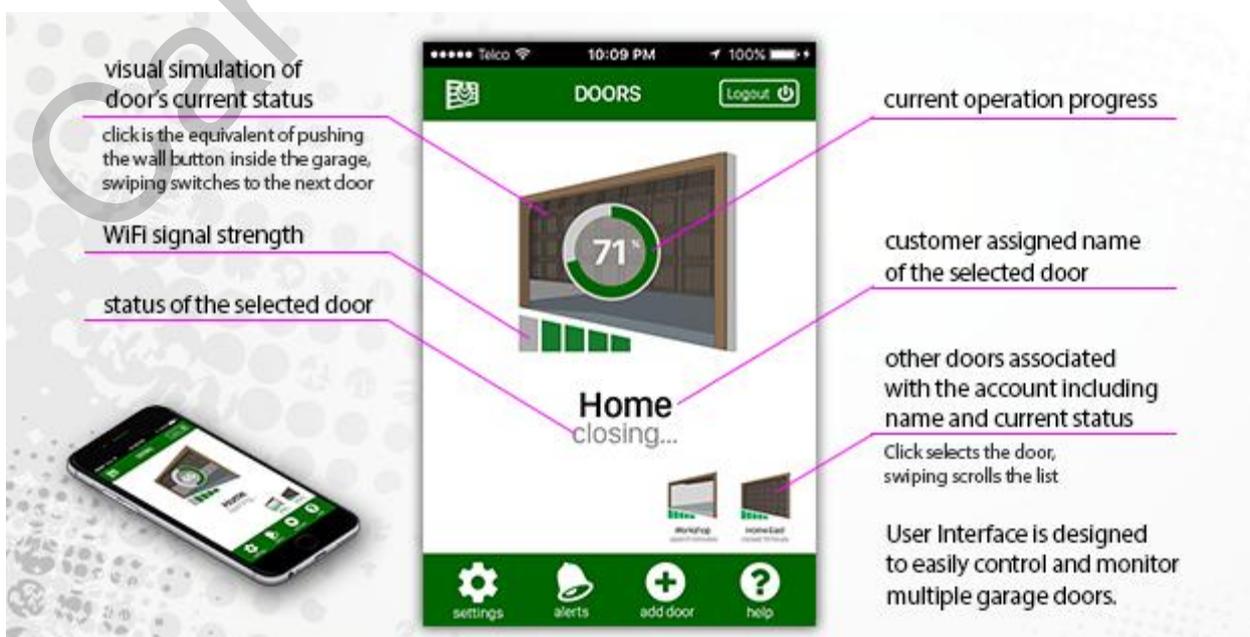
When instructed, switch to WiFi configuration screen of your mobile device and reconnect it to the temporary open hot spot created by Garadget. The name of the network will be PHOTON-XXXX where XXXX are random numbers and letters.

After connection is established, return to the app or the web-page. Following a short delay, you will be presented with the list of the WiFi networks visible to your Garadget. Select your home network and enter the connection credentials.



When connection is configured, the Garadget will first join your home network (LED blinking green) then login to the server (LED blinking cyan and later slowly pulsing cyan). In native mobile apps you will have a chance to name your device at this stage, in the Web app this can be done later in settings.

After successful setup procedure, your mobile device should reconnect to the Internet and the app should list your new device. If the new device is not listed in the account, try logging out and logging back in.



Please refer to troubleshooting section below if things are not going according to plan.

## Controller Installation

### Requirements

For successful controller installation you will need:

- configured Garadget controller with included screwdriver and supplies
- motorized garage door opener controlled with a wired wall button
- spare power outlet near the installation location
- ladder, additional light, additional tools depending on the type of the door opener

Since you may be operating your garage remotely, it is critical that your garage door opener has functioning safety features such as motion reversal when encountering obstacle, photo eye (edge sensor) etc.

### Safety

We would prefer that your Garadget setup experience did not include an ER visit. **Your safety is your own responsibility.** Before proceeding, please make sure that among other common sense safety measures you:

- are in right physical and mental condition for the task
- power down your garage door opener at all times while working around it
- have proper ladder with stable footing
- have sufficient light in work area
- do not look directly into the laser
- have somebody else around in case you need help

Please solicit the help of the licensed and insured professional if, for any reason, you are uncomfortable with performing the Garadget installation yourself.

### Wiring Research

Majority of modern openers have the wires from the wall button coming into the terminals on the back of the unit. Garadget has electrically isolated relay with the contacts that should be connected to the same wires so it can simulate the push of the button. Before proceeding to the installation, it is very important to determine the wires from the wall button. The mistakes in this step may result in damaged opener and/or Garadget.

In some cases, the wiring can be traced to the button visually, but it is always a good idea to confirm the purpose of the connection on the back of your opener from the installation manual. If you don't have one around, search the web by the model name. Additional information is available in [Wiring Openers](#) of section of community board.

Some of the systems (notably [security+ 2.0 openers](#)) use encoded protocol for wall buttons. If there are no terminals for wired garage control button, then Garadget can be wired to the contacts of the button inside of the spare wireless remote.

Some systems, frequently found in industrial settings, are installed with the separate wall buttons for opening and closing. Contact our technical specialists for instructions on installation in such systems.

## Mechanical Installation

Typically Garadget is attached to the bottom of the garage opener unit using included double-sided adhesive pad.



Before permanently affixing the Garadget please make sure that the chosen location:

- has an unobstructed view of the flat area of the top panel of the garage door
- has a spare power outlet near by
- is near opener terminals or wall button wiring
- has the robust WiFi signal



Power up the Garadget using included power adapter and micro-USB cable. Be careful to not apply any lateral force while inserting the connector. Confirm that the LED is slowly pulsing cyan and laser is pulsing every second. Without applying adhesive pad, place Garadget in the chosen location to confirm that all above listed requirements are met.

To attach the Garadget, first remove the protective sheet on one side of the double-sided adhesive pad and apply the pad to the base of the Garadget's mount. Ensure that the mounting surface is clean and dry before removing the second protective sheet and permanently attaching the Garadget to the opener.

Once the adhesive grips, it's NOT going to be easy to undo. Do not pull on the Garadget to remove it; instead try to pry along the base with the flat tool as you are leaning it to the other side. The kit includes the additional pad for the second chance.

There's a mounting hole in the base for attaching garadget where use of adhesive pad is not practical. Separate the base of the mount from the body of the device before mounting using this method.

## Wiring

Use the included screwdriver to loosen both screws in the black terminal on the back of the Garadget without completely removing them. Push the stripped ends of the included controller wire under the tabs of the terminals then tighten the both screws. The polarity of this connection is not important.



The other end of the control wire should be connected to the terminals of the garage door opener according to your research. If the length of the included wire is not sufficient, you can use 18/2 Solid Thermostat Wire from home improvement store.



### **Affixing reflective tag**

Power up mounted Garadget and adjust its the vertical positioning so the laser blinks at the flat area of the top panel of the garage door while it is closed. Tighten the mounting screw on the side. Remove the protective layer from the back of the reflective tag and attach it to the door so the laser light the center of the tag. At this point the software should be reporting the door state as closed.

## **Troubleshooting**

### **While Setting Up Account**

#### **No LED indications**

Try powering up from alternative USB source and using different micro-USB cable to determine the faulty component.

#### **LED is not blinking dark blue**

Press and hold "M" button for about 3 seconds to activate the listening mode. Hold for over 10 seconds to delete any previous WiFi settings saved in the unit. The reset will be confirmed by the burst of quick blue blinks.

#### **No PHOTON-XXXX WiFi network or unable to connect to it**

Make sure LED is slowly blinking blue. Try getting your mobile device closer to Garadget or try different mobile device. If nothing worked then see [other available solutions](#).

#### **My WiFi networks is not listed**

The signal may be too weak. Get Garadget closer to the router to confirm.

#### **LED is fast blinking green**

Garadget is unable to connect or login to the WiFi network. Confirm WiFi network password by logging in from another device. Restart the setup process with the correct WiFi password.

#### **LED is fast blinking cyan**

Garadget is unable to connect to server. Make sure your there is Internet access from your local

network. Some network may have restricted online access. Make sure Garadget's address and port (TCP 5683) are white listed.

### **LED is slow pulsing cyan but the device is not in the list**

Reset the unit by pressing "R" button, wait for it to reconnect and refresh the device list in app. Try logging out of the account and logging back in again. If that doesn't resolve the issue try restarting the setup process from within your new account (add device) making sure there is a reliable unrestricted Internet connection from your network and on your mobile device.

### **App crashes or doesn't work ask expected**

Use in-app crash reporting feature to help us fix the problem. Check the marketplace for the updated version. Check community forum to see if the problem is being addressed and what is the workaround.

## **While Installing Controller**

### **Device is not reporting the closed state**

Verify that the laser is blinking and hitting the reflective tag. If the confidence reading in the settings is below 50%, adjust the threshold to about half of that value. If the confidence is lower than 30% see the [discussion about the ways to improve the sensor reliability](#).

### **Door control commands are not working**

Disconnect the opener control wires and verify the relay function of the Garadget using the continuity tester. If the command from the client app causes relay to close (short contacts) for a fraction of a second then the problem is incorrect wiring. Often the relay action can be confirmed by listening to a quiet "tick" sound that it makes when closing.

### **Door moves for about a second then stops**

The status of the door needs to be synchronized with Garadget. Close the door using wall button and make sure it is reported by the client app as "Closed".

### **I'm receiving multiple false door state notifications in the middle of the day**

Changing ambient light conditions in your garage degrade Garadget's sensor confidence. Take note of the reflection rate reported by the app while this happens and set the threshold value at half of that value. See troubleshooting for "Device is not reporting the closed state" above for improving the reflection rate if it's too low.

### **App reports device as "offline"**

Try the solution from the list above matching the LED color pattern displayed by Garadget. Additionally check [Particle Cloud status12](#) to see if there are any ongoing issues.