

## AUTOMATIC CURTAIN MANUAL

## Parts Required



# Ordering

## 1. Mechanical

- a. Get the required 3d printed parts **P1, P2 (same as P1), P4, P5, P6** from **resource/MECHANICAL\_PARTS/** and order other parts which are required (the links to the parts **P3, P11, P12, P13, P9** to order can be found in **resource/MECHANICAL\_PARTS/**)



## 2. Electronics

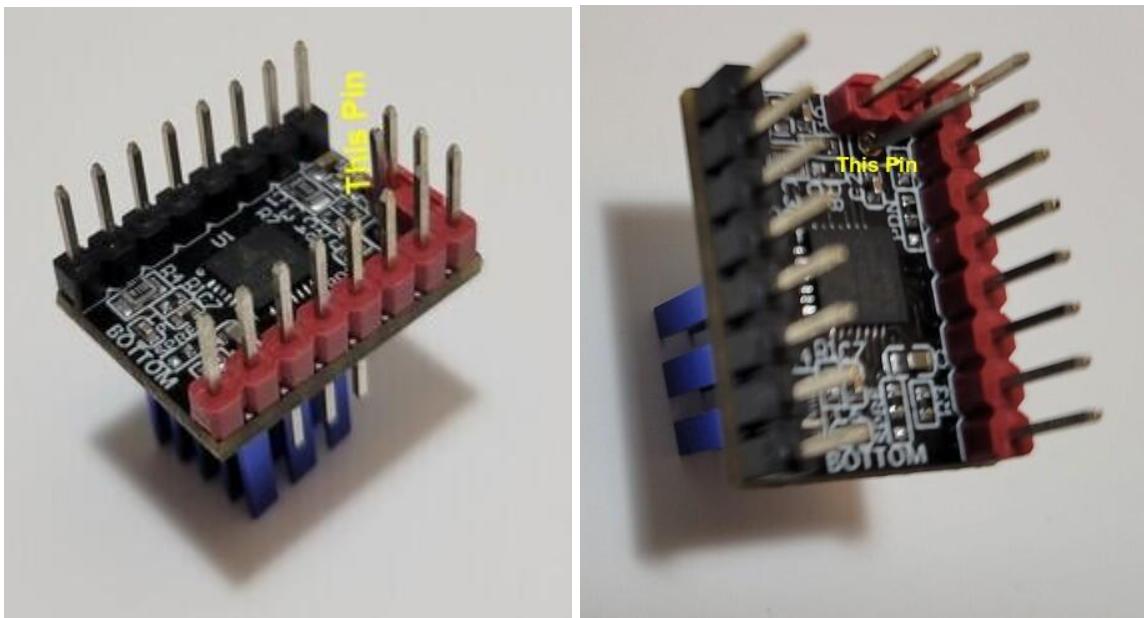
- a. Decide which one to go with:
  - i. PCB\_BARE\_TMC\_2209 - PCB with bare TMC2209 module
  - ii. PCB\_BTT\_TMC\_2209 - PCB with [Bigtree tech TMC2209 module](#)
- b. Go to **resources** folder, fetch the selected PCB files, export respective gerber files and get the PCB printed
- c. Order the parts **P10, P7**

## Prepare for assembly

1. Gather all 3d printed and ordered parts
2. Burn esp32 (the burning can be done with ArduinoIDE with default setting for ESP32, one can use [this guide](#))



3. Prepare bigtreetech module - 3rd Pin Solder. This is SG\_THRESH pin for detecting stalling of motor

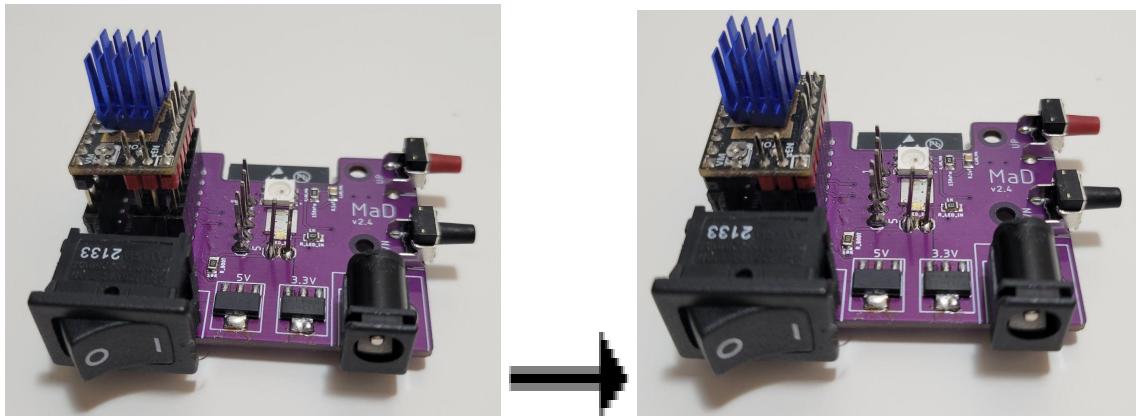


4. Prepare motor - solder ends of the motor with 2.54mm pin header in the order shown in the picture

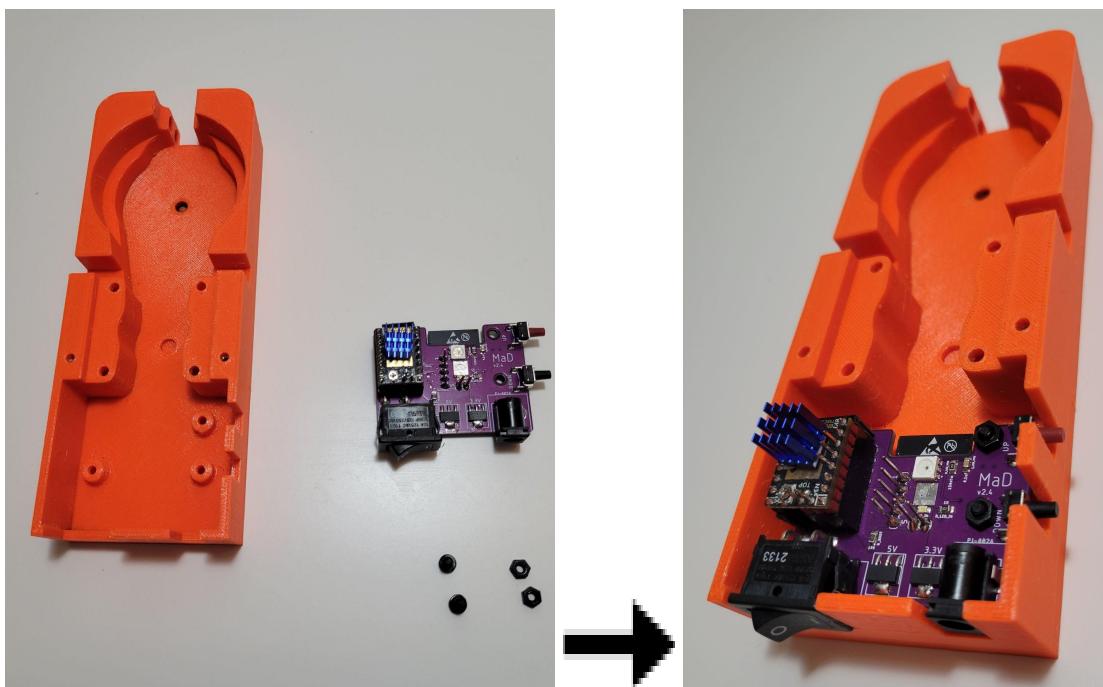


## Assembly

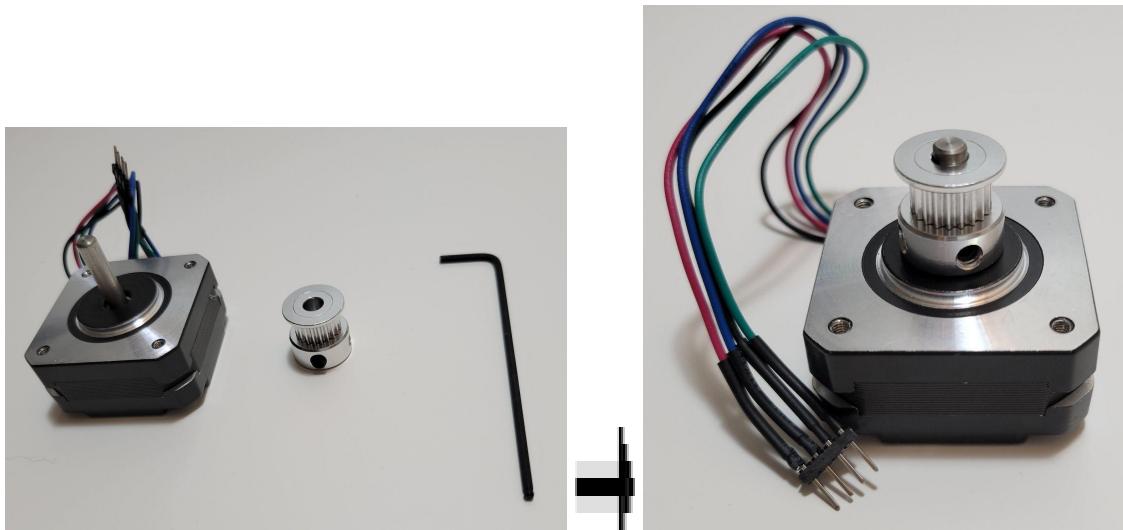
1. Install **P7** on **P8** such that the pins of **P7** align with female pin headers of **P8**



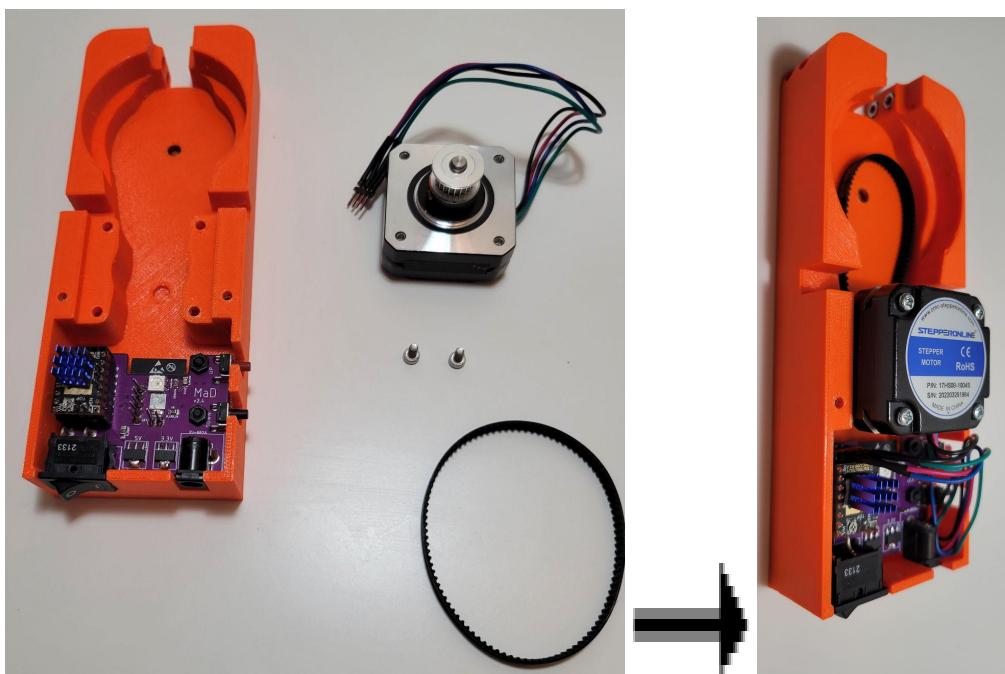
2. Install **P8** on **P5**



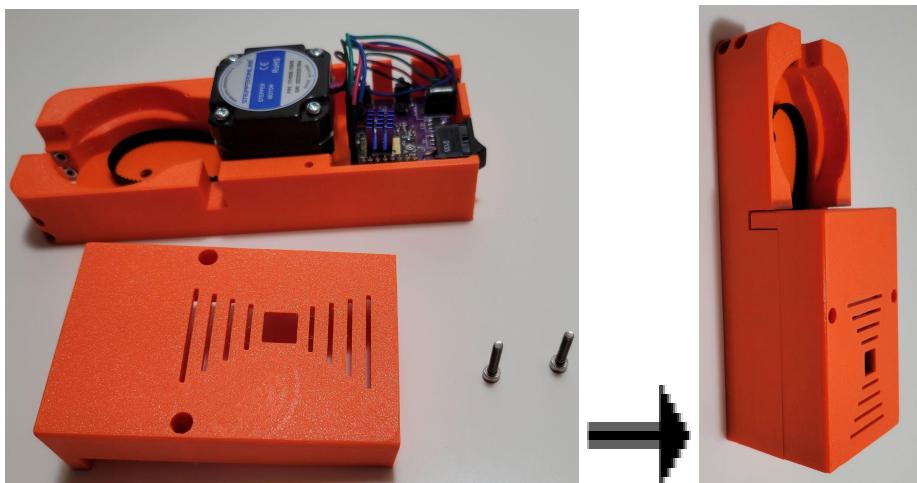
3. Install P13 on P9



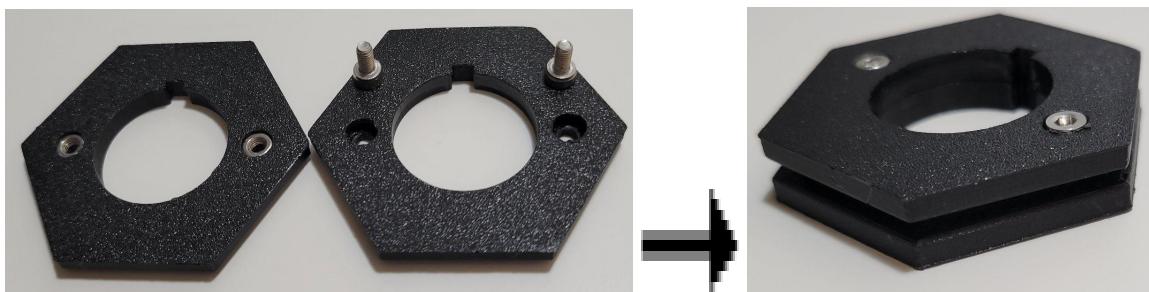
4. Install motor + pulley + belt



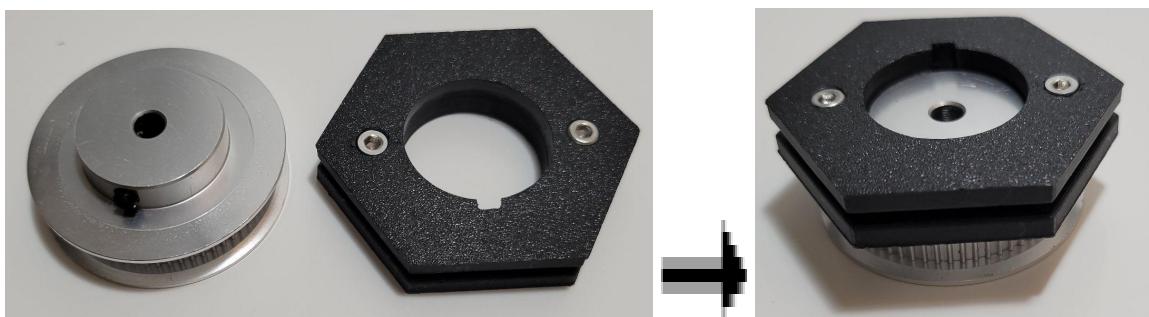
5. Install **P6**



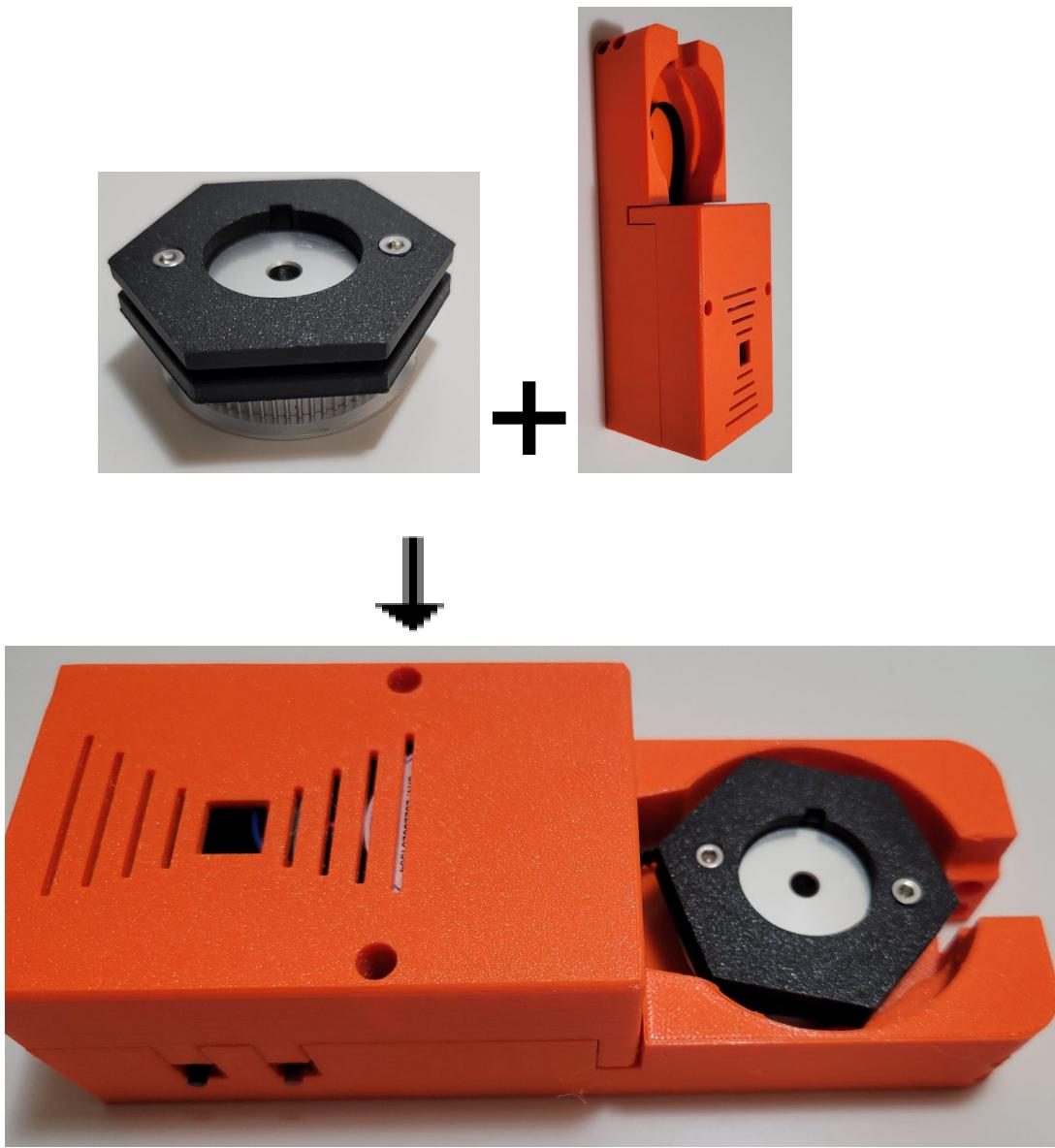
6. Join **P1** and **P2**



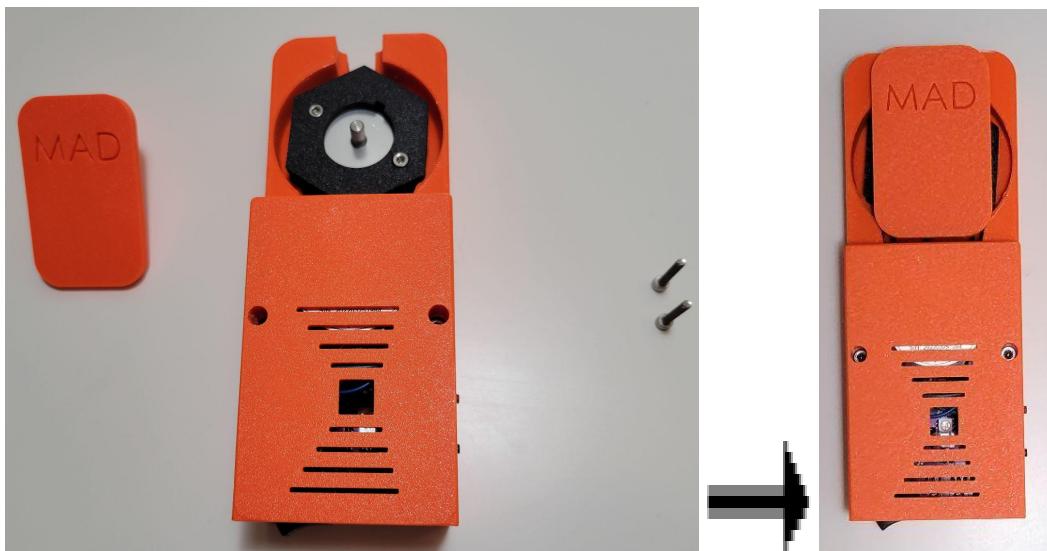
7. Install joint part on **P3** such that the screw align with the notch in joint part



8. Install the above part on the partially assembly



9. Install P4



## Install on wall

1. Apply double sided tape on the back of the controller

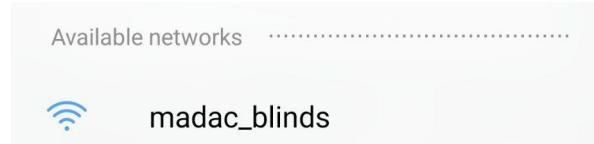


2. Insert thread of your blinds
3. Stick on wall using the second side of the double sided tape. (**Thread should be tight**)
4. Connect to adapter 12V/2A and power on

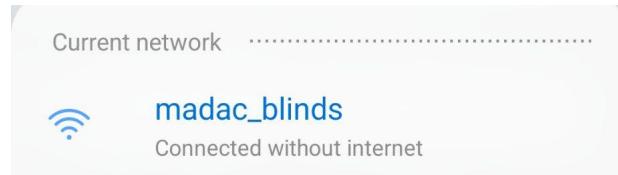


## Setup

1. Before starting setup **MAKE SURE YOUR BLINDS ARE IN OPEN POSITION FOR CALIBRATION TO TAKE PLACE SUCCESSFULLY**
2. Reset the controller by long pressing both the buttons at the same time on the right of the controller. On first start you don't need it, but if you want to reset the controller later after some use. The led color will turn from green to white
3. Once reset, the controller will make an open wifi hotspot with the name **madac\_blinds**



4. Connect to the hotspot



5. Open browser and type **192.168.0.10** in the search bar and hit **Enter**, you will see a webpage as following

The screenshot shows a web browser interface. At the top, there is a navigation bar with icons for home, address bar containing '192.168.0.10', a plus sign, a refresh button with the number '2', and a menu icon. The main content area is titled 'MaD Automatic Curtain Setup'. It contains three input fields: 'Device Name' with placeholder 'Enter device name to be displayed in Alexa..', 'Wifi SSID' with placeholder 'Enter Wifi SSID..', and 'Wifi Password' with placeholder 'Enter Wifi Password..'. At the bottom of the form is a green 'Submit' button.

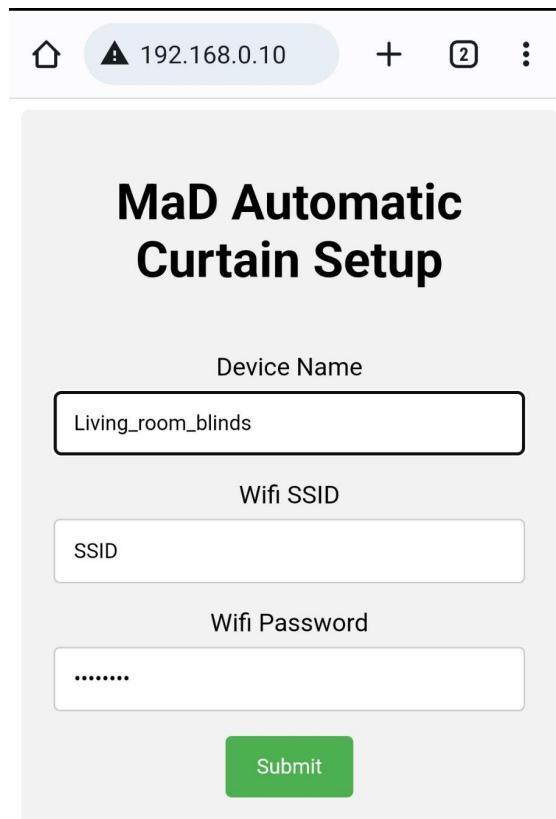
Device Name  
Enter device name to be displayed in Alexa..

Wifi SSID  
Enter Wifi SSID..

Wifi Password  
Enter Wifi Password..

Submit

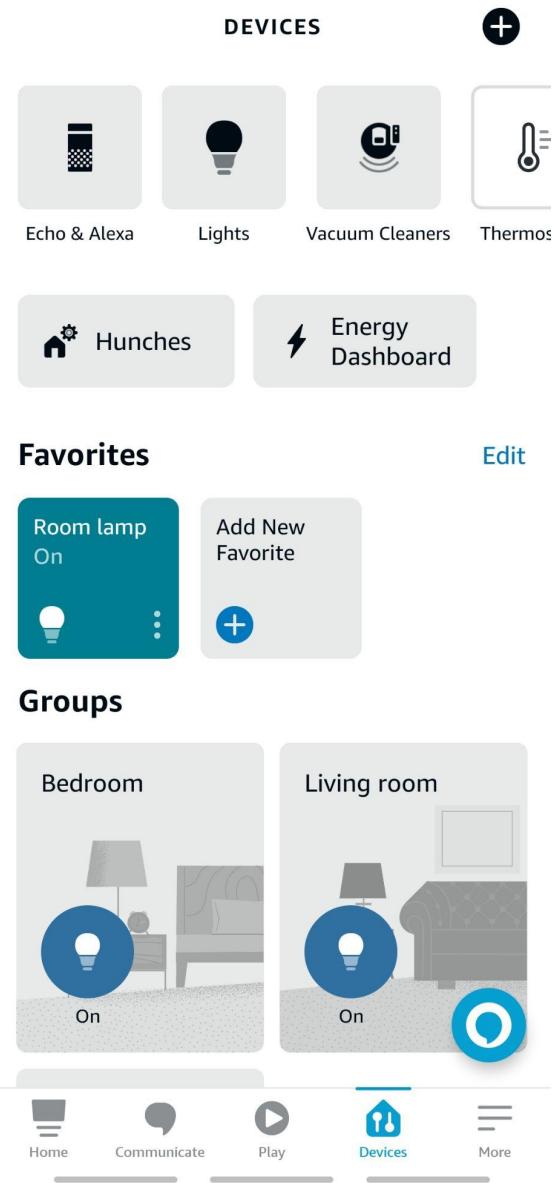
6. Fill the device name that you want the device to appear in Alexa app, your home wifi SSID and password. Something like this.



7. Hit **Submit**. The device will now calibrate automatically. In calibration, first of all device will check the ends of the traversal and compute the length of travel
8. Go to **Alexa** app

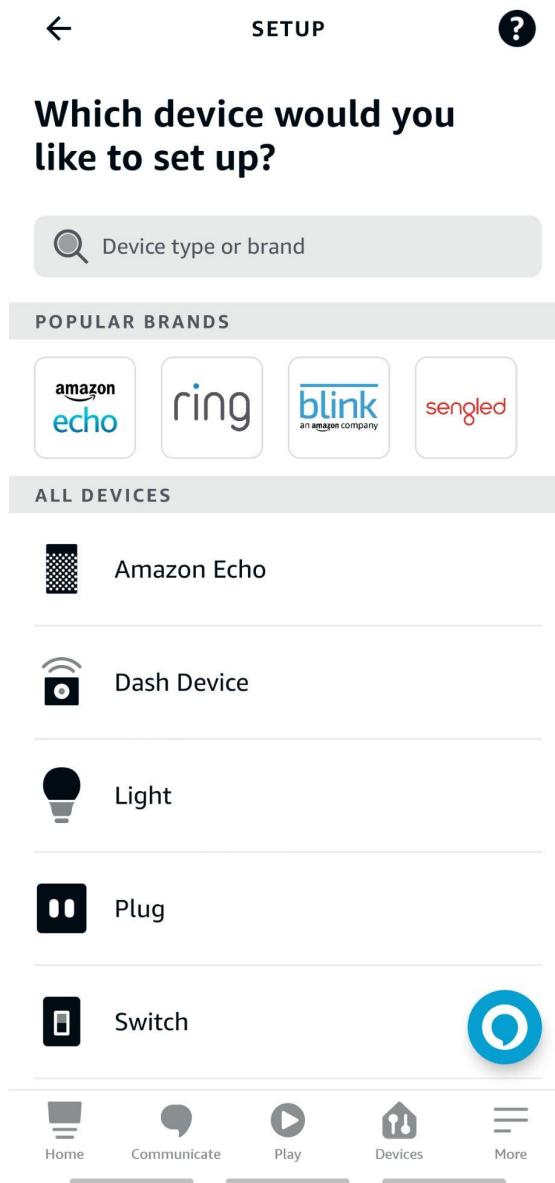


## 9. Go to Devices

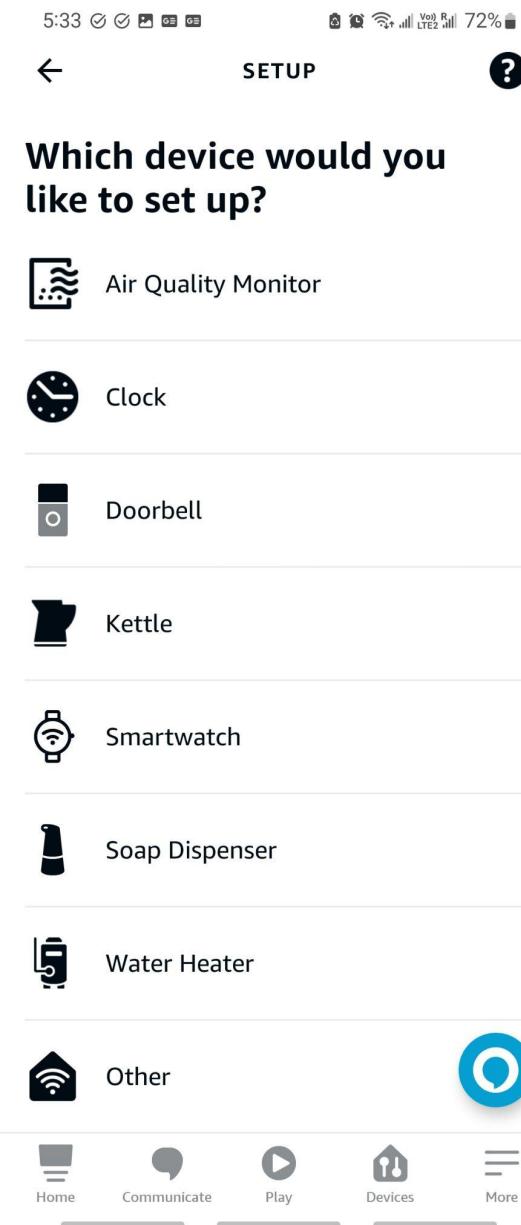


10. Hit + button on the top right of the screen

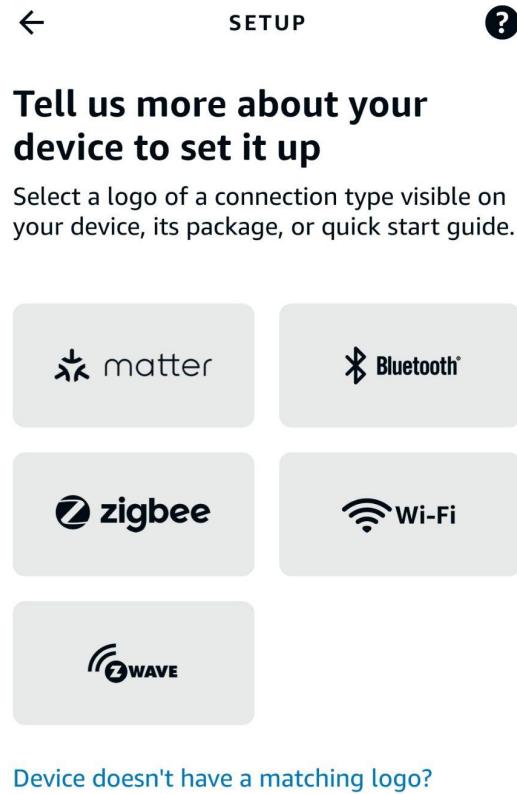
11. You will see prompt screen something like this



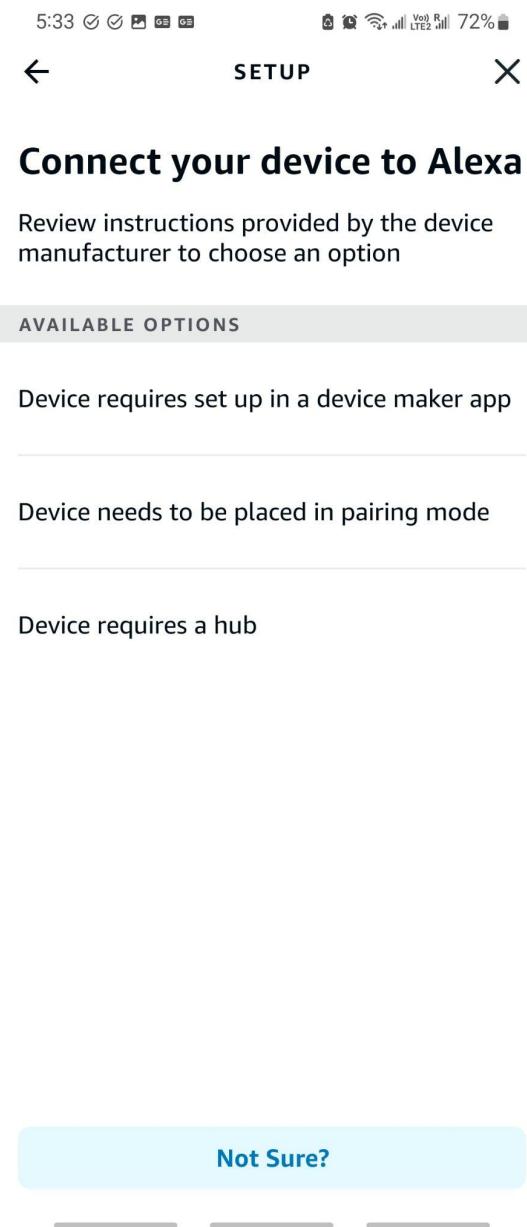
12. Scroll down and select **Other**



13. You will see something like the following pic. Select **Device doesn't have a matching logo?** at the bottom



14. You will see something like the following pic. Select **Not Sure?** at the bottom



15. You will see something like the following screen saying the alexa is discovering the device. Wait for the process to finish



**Alexa is looking for  
devices to connect...**

This may take up to 45 seconds

16. Once this finished, you will get future steps to setup the device



SETUP



SETUP



## 1 light found and connected

Your light has been added to your Alexa account. Next, continue setting up your device.

### Where is your light?

Add your device to a group so you can control devices together, and say things like, "Alexa, turn on the Living Room."

YOUR GROUPS

Bedroom

Living room

COMMON GROUPS

Kitchen

Main bedroom

Family room

Skip

Set Up Device

Add To Group

**SETUP**



**Living\_room\_blinds is set  
up and ready to use**

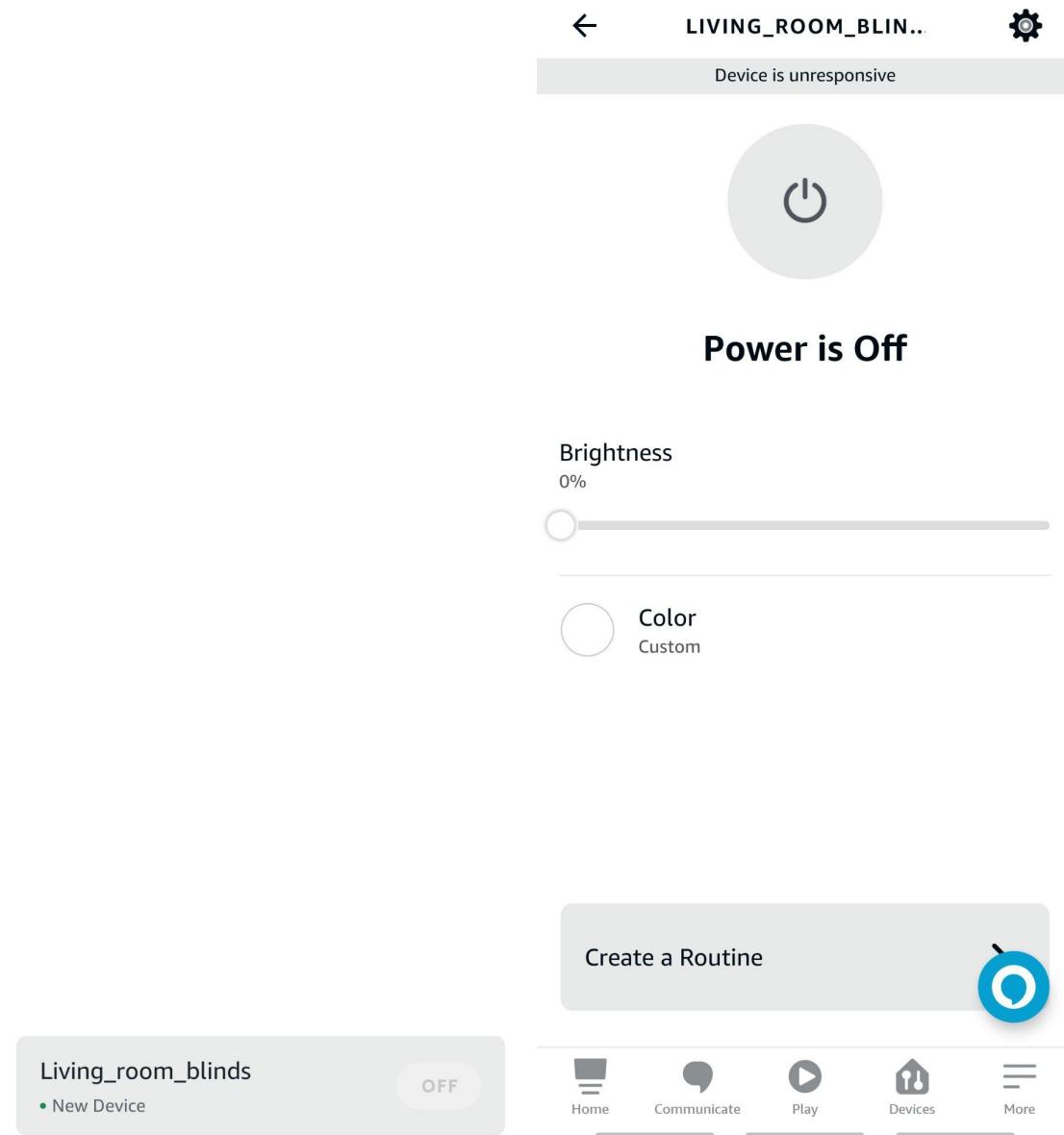
To control it, say

*"Alexa, turn off Living\_room\_blinds"*

**Done**

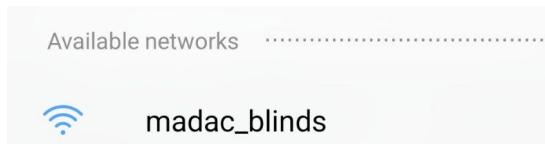


17. Now you can control the device with your voice or the alexa app by going in **Devices** -> **Lights** -> **Your Device Name**

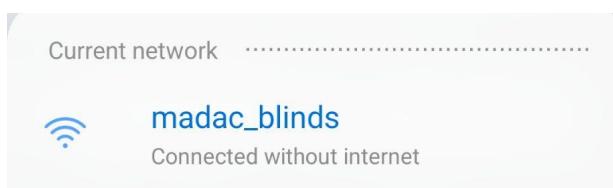


## OTA Mode

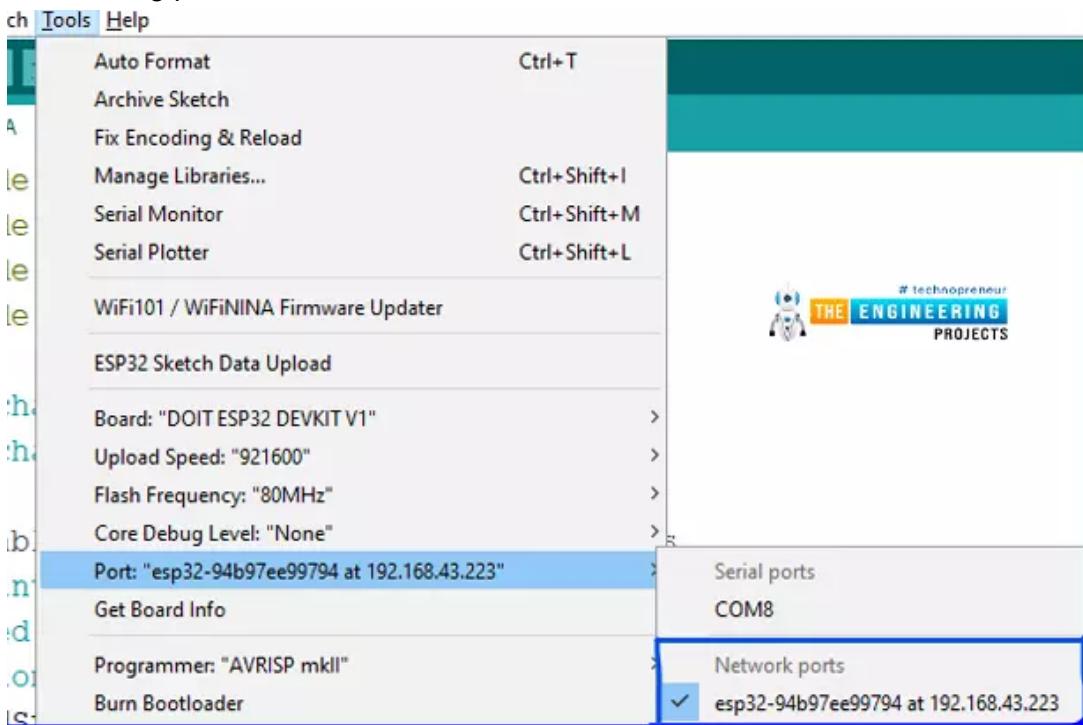
If you want to enter OTA mode, double tap both the buttons on the right of the device. The LED on the device would turn to purple color. Once that's done, device will start wifi, the controller will make an open wifi hotspot with the name **madac\_blinds**



Connect to the hotspot



After this step, you can go to your Arduino IDE and upload the sketch using the port shown in the following picture



## How to use

1. Manual Buttons
  - a. Double tap single button: This will make the controller move curtains blindly in respective direction (direction depends on which button is used) until it detects an obstacle
  - b. Long press single button: This will make the controller move curtains blindly in respective direction (direction depends on which button is used) until it detects an obstacle or the user unpresses the button
  - c. Double tap both button: OTA mode (described in Setup)
  - d. Long press both button: Reset mode (described in Setup)