

IoT Smart House Tutorial

Original manufacturer's tutorial can be found in /dropbox/Install the Smart Home/how to install the smart home.doc. Link below.

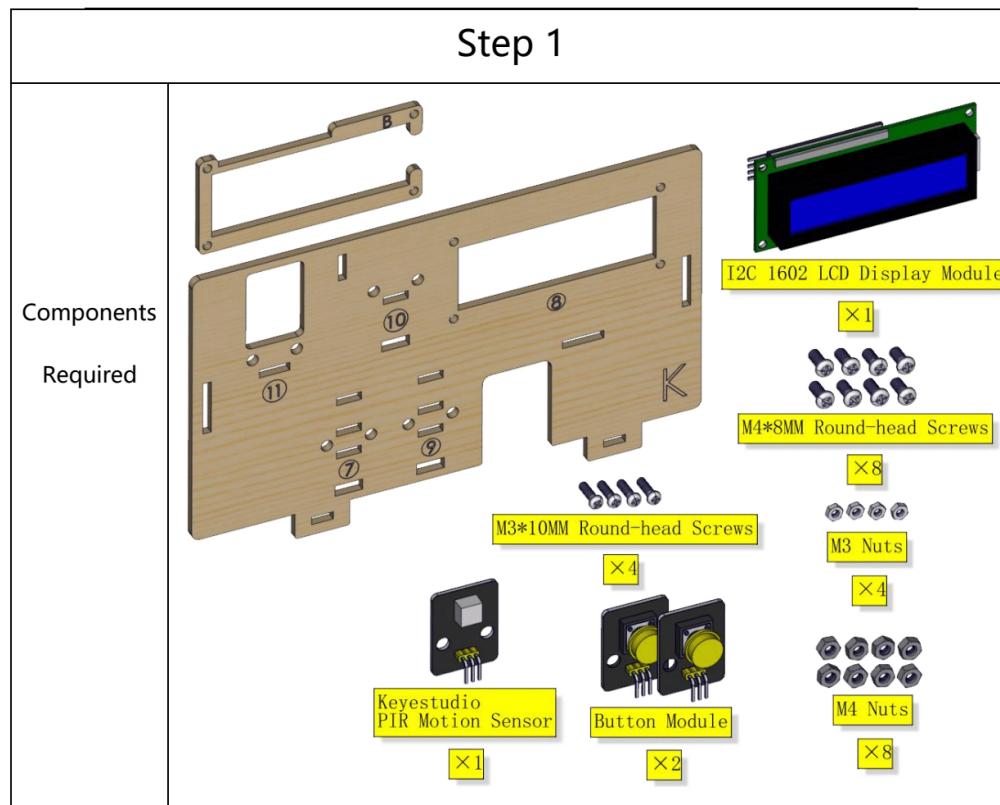
https://www.dropbox.com/sh/z74crh616zx91ow/AAA3PGbX31Q_mzKfGKOSoTJka?dl=0

General Recommendations

- Screw all bolts in first, *loosely*. You can always tighten later.
- Some of the nuts will not work. If this is the case, try another one-- we have extras.

Assemble LCD Display

Note that not all of the components listed below will be used in this step. You will need the K-wooden-board, 12C 1602 Display Module, 2 button modules, 4 M4 Nuts, 4 M3 nuts, 4 10 mm M3 screws, and 4 8mm screws, wooden B frame.



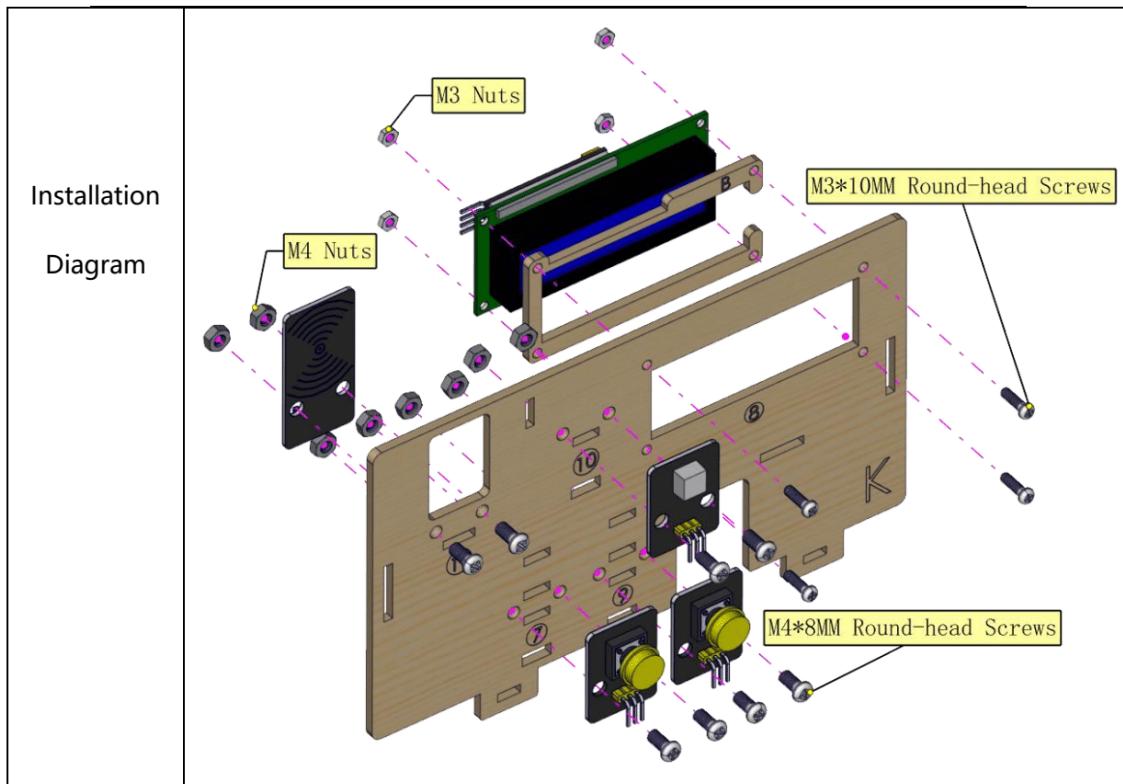
Flip the K-board over so that "K" faces you. We will be working in this orientation from the top to the bottom visually. Take the small wooden piece labeled "B" and frame the display module. Flip the display and place in the hole number 8. Screw into place with 4 10 mm M3 screws, and your

M3 bolts. Be careful about stripping the screws. To avoid this use the correct screwdriver, the purple one, and hold the nut with 5.5 millimeter cross wrench. It will be easier to do this with your partner. Note that some of the holes may be threaded and others may not be. Screw the knut in manually partially before using the cross wrench. **Ignore Motion Sensor installation instructions.**

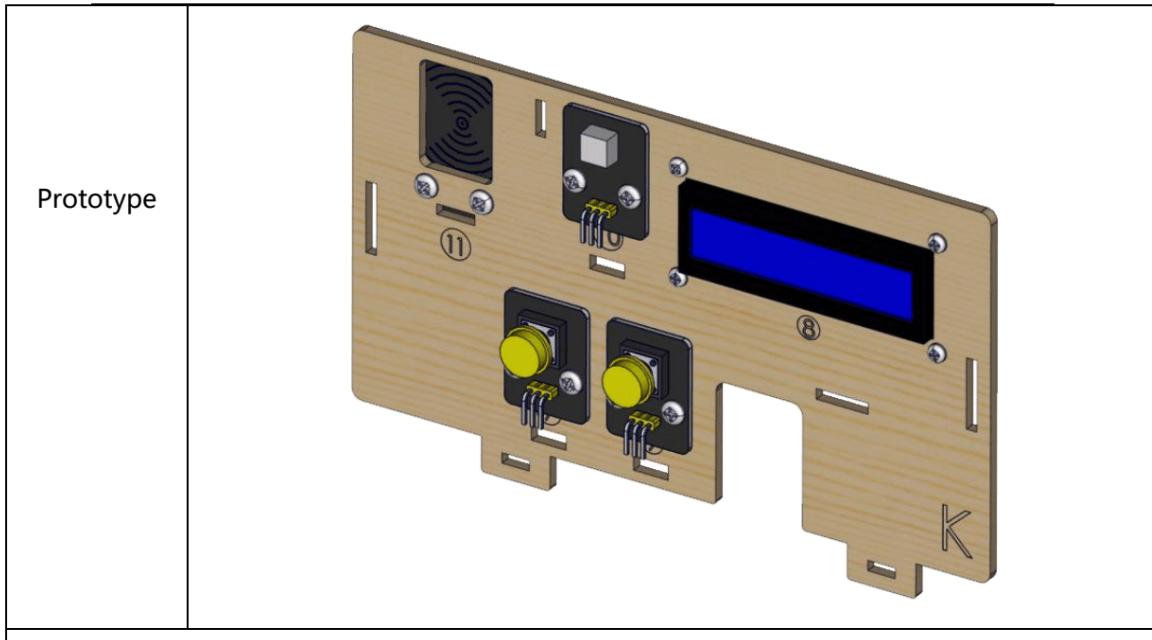
Buttons

On the same wooden board (K), place button modules over the number 7 and 9 according to the horizontal plackets. Screw in with 4 8 mm M4 round-head screws abd 4 M4 nuts. Heed the same recommendations as before.

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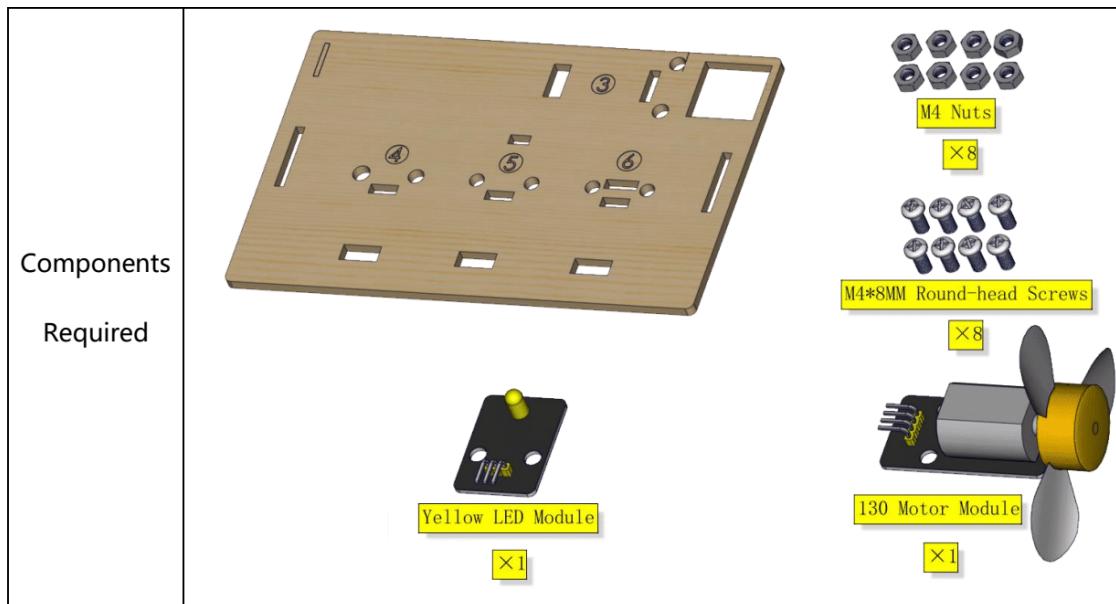


The finished board should look like the picture below ignoring the speaker in place 11 and the motion sensor.

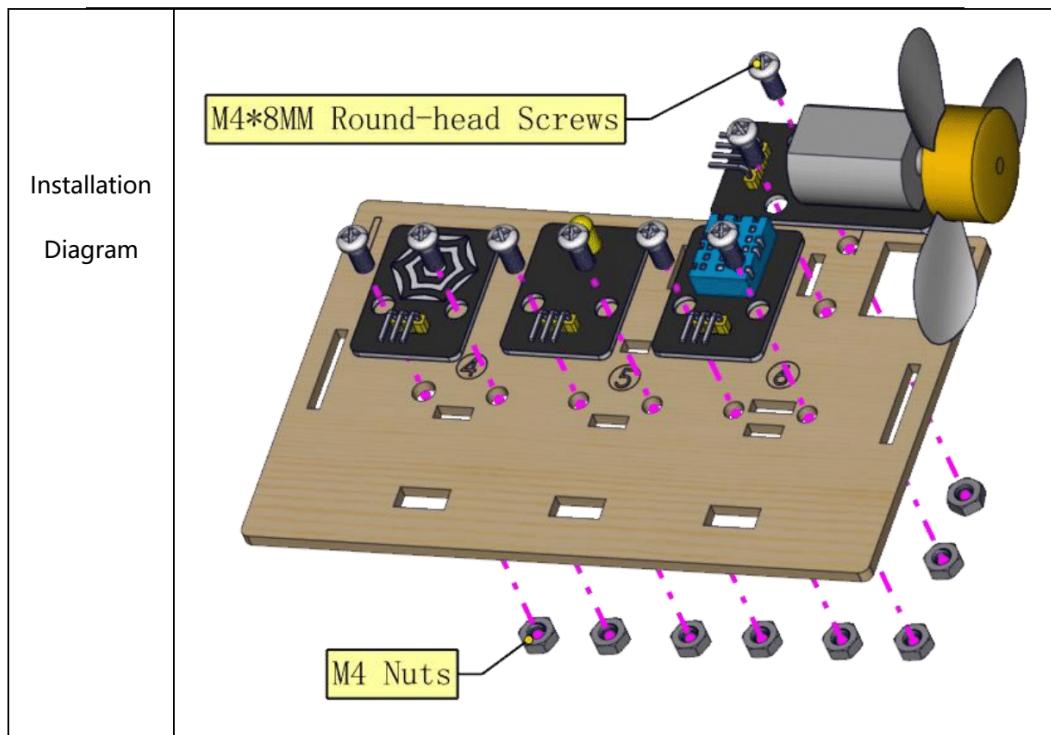


Board I Assembly: Fan Motor, LED

Moving on to wooden-board-I, you will need 4 8mm M4 nuts, 4 M4 screws, yellow LED module, and your fan motor.



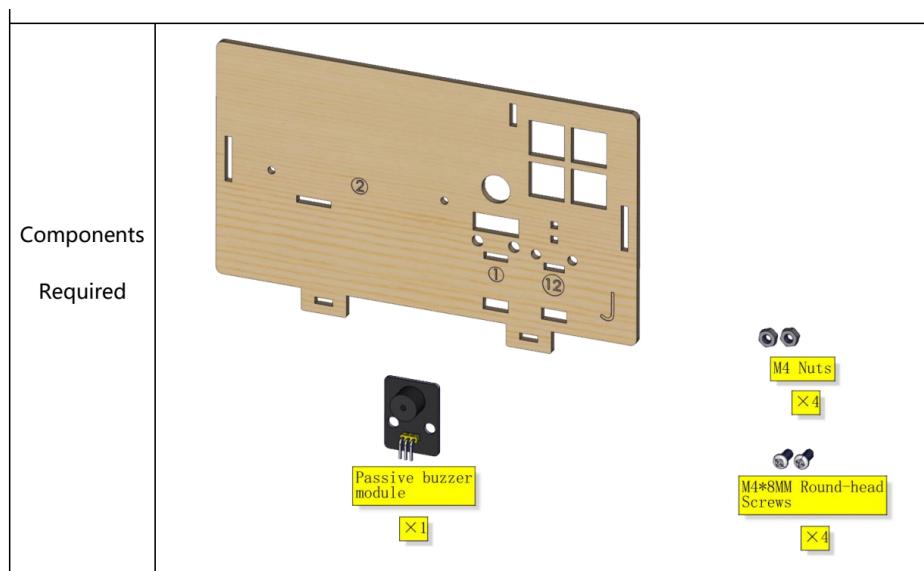
Attach Yellow LED Module over the number “5” lining it up the top and bottom placket. Install with the M4 screw-nut pair. Take the 130 Motor module and attach to the right of the number “3”. Do not attach the fan until the very end. It will be much more difficult to install. Use the red screwdriver.



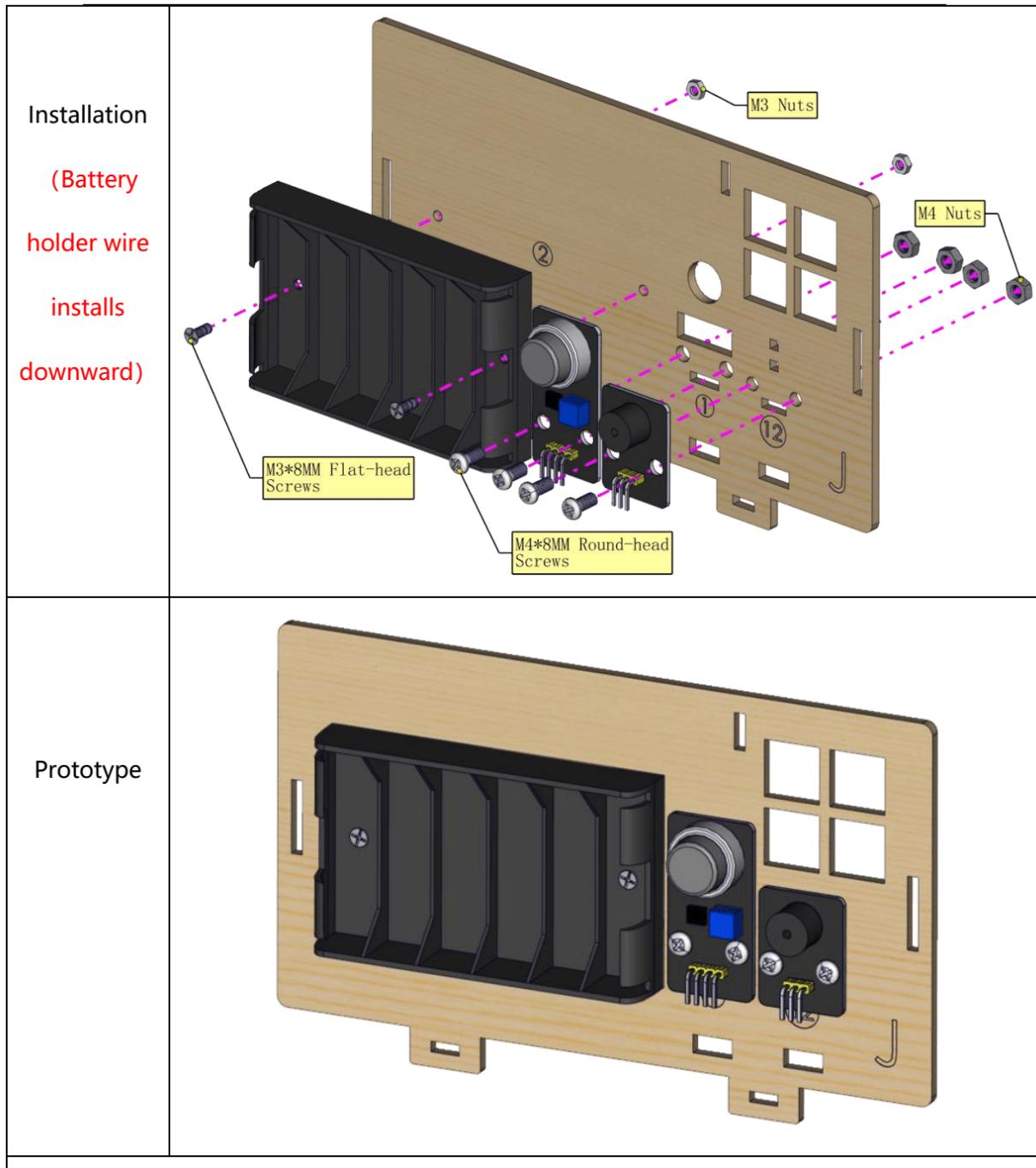
Skip the rest for now -- GO TO BOARD "J" (you can experiment with the rest of the sensors on your own, after camp).

Board J Assembly: motion sensor, passive buzzer module

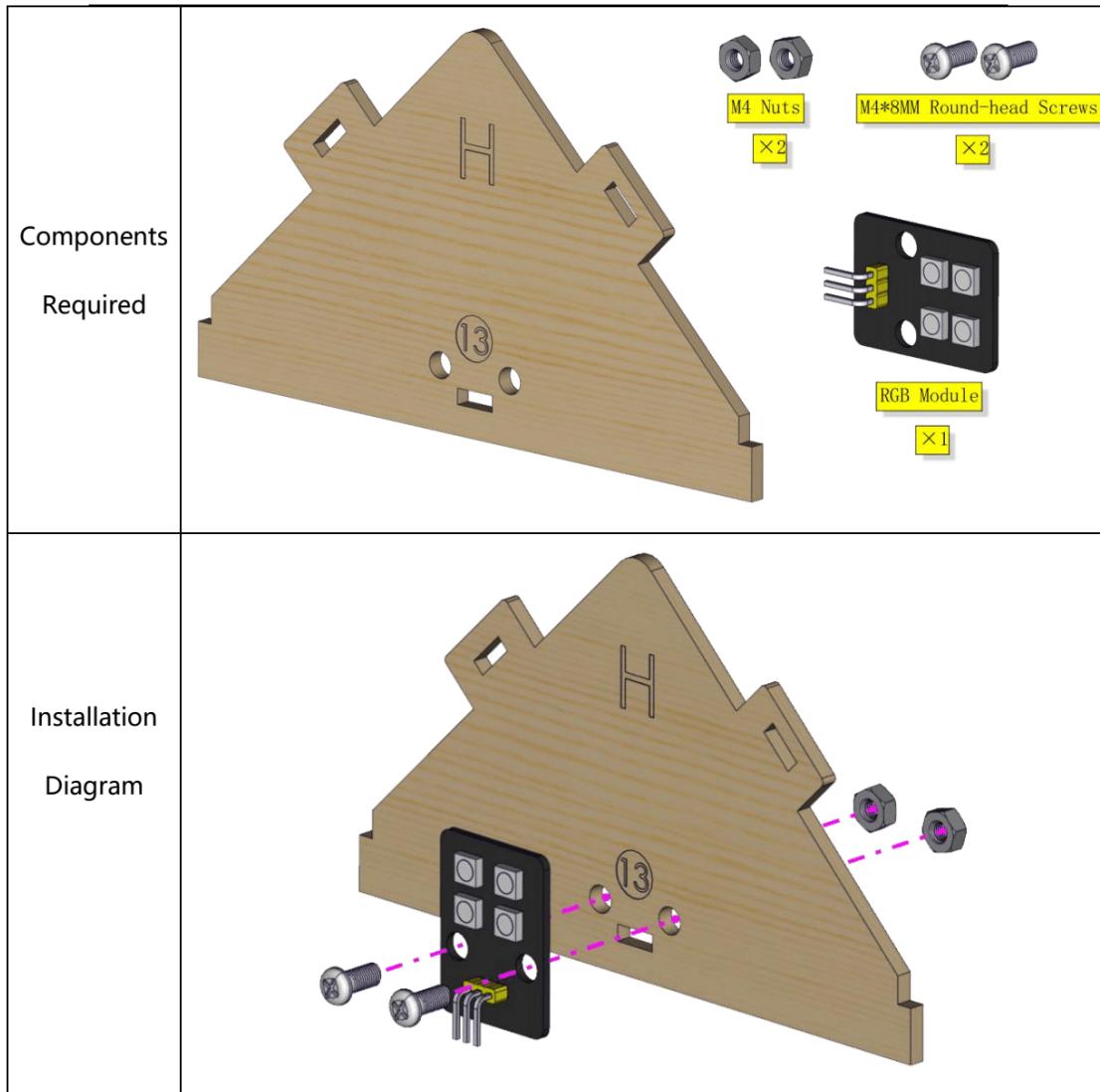
Place the completed boards I and K to the side and take out the wooden board J. You will need the motion sensor, the passive buzzer module, 4 M4 nuts, and 4 8 mm round-head screws.



Install the motion sensor in place according to the number 1 and install the passive buzzer module according to the number 12 placement. Screw in with 2 M4 x 8 mm screws and nuts using the cross wrench, the red screwdriver, and you partner. **Ignore the the battery installation instructions.**

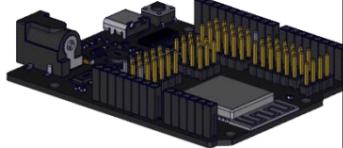


Ignore RGB Module installation instructions. We will not be attaching any components to the H-board.

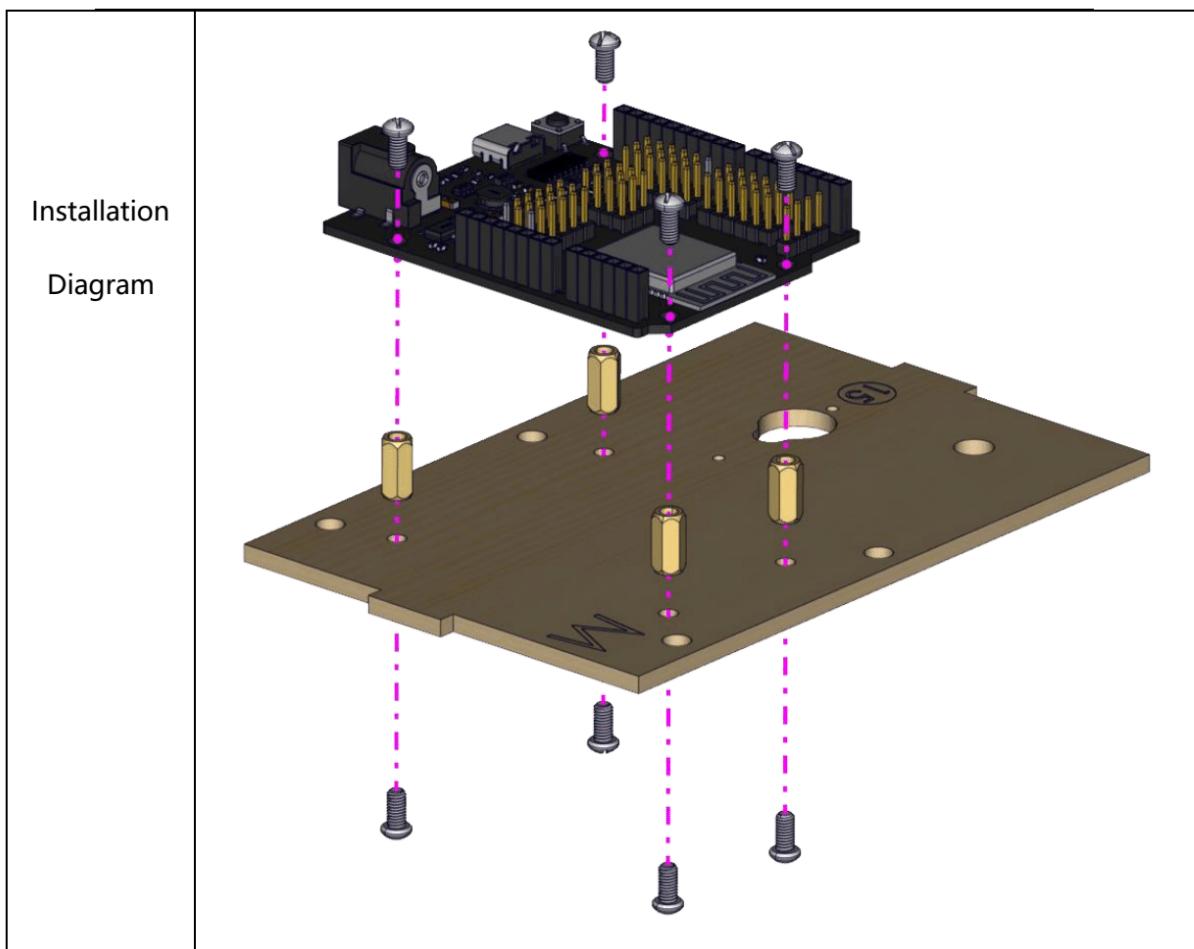


Board M Assembly: Development Board

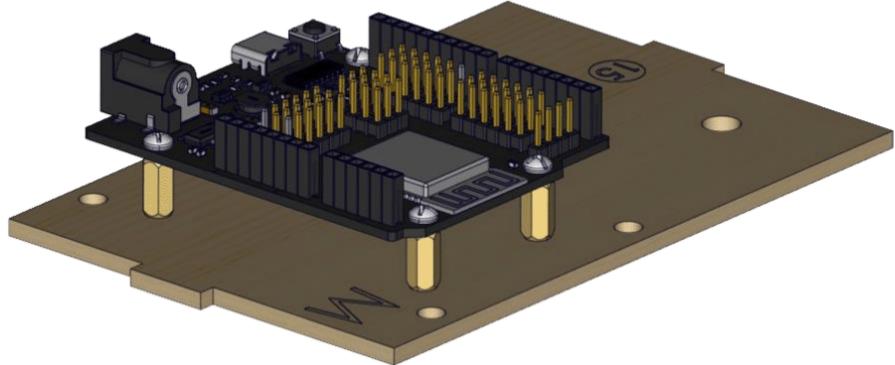
You will need the ESP32 PLUS V2.0 Development Board, 4 10 mm M3 Dual Pass Copper Pillars and 8 6 mm round head screws.

Components Required	    ESP32 PLUS V2.0 ×1 M3*10MM Dual Pass Copper Pillar ×4 M3*6MM Round-head Screws ×8
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Next, to attach the ESP32 V2.0 Board to the wooden M Board, place 4 M3x10mm Dual Pass Copper Pillar on the 4 smaller holes. Install these pillars first on the bottom with M3x6mm Round-head screws (screwed manually). Then placing the Development Board on top, fasten with 4 more M3x6mm screws. Tighten with the purple screwdriver.



Prototype

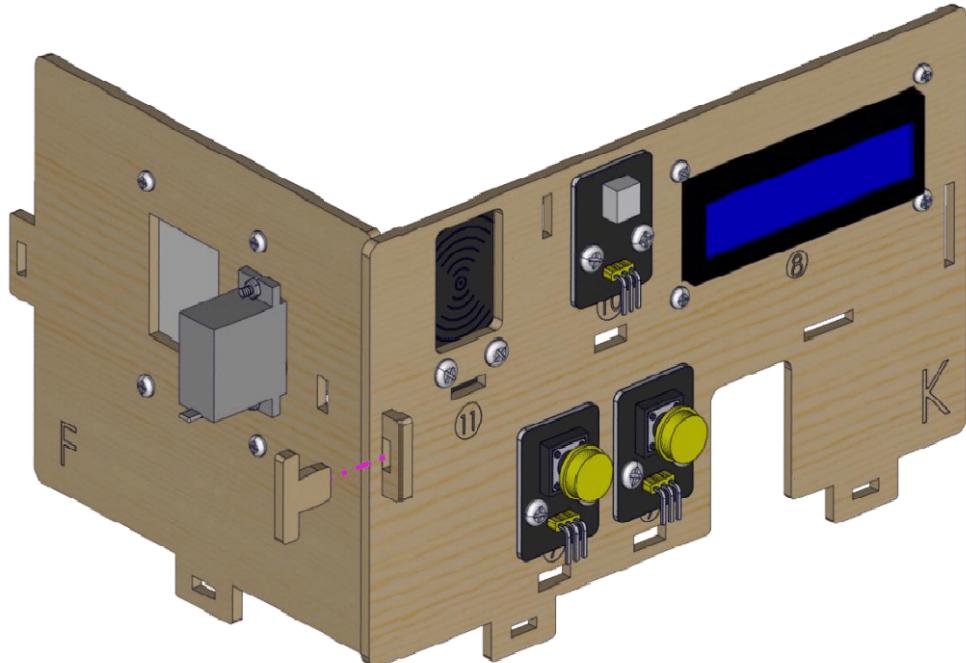


Now we can start assembling the walls of the house.

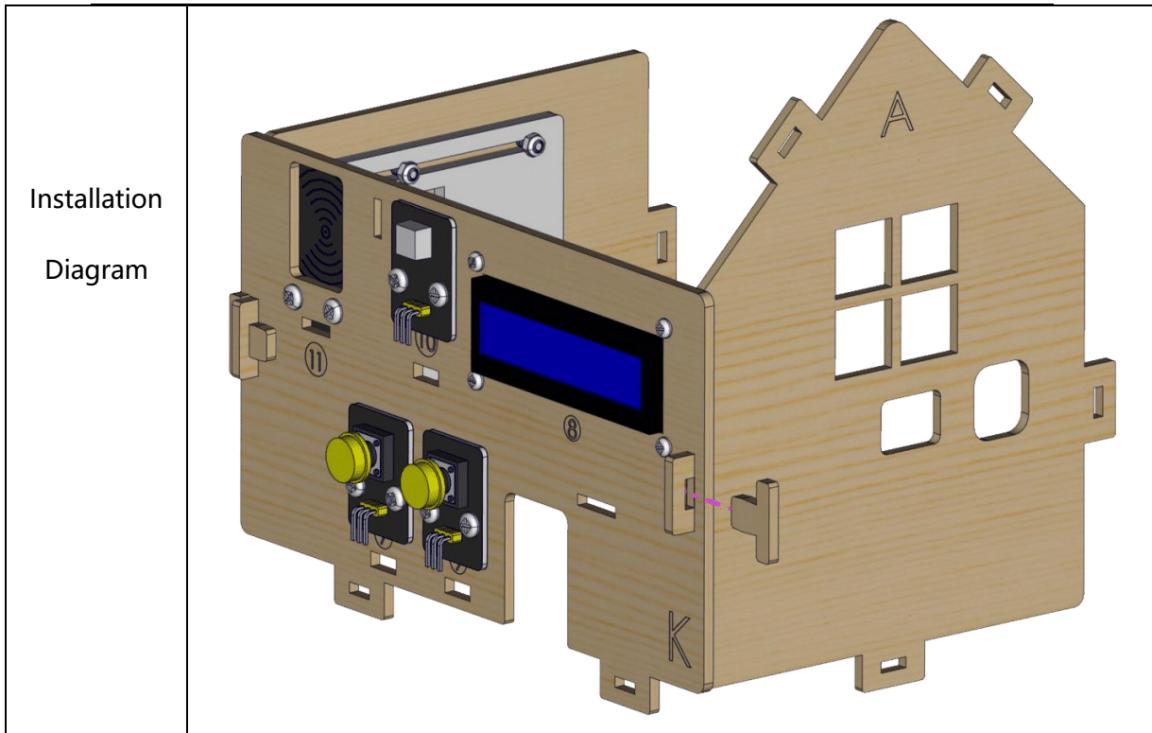
House Assembly

We will start with attaching boards K and F together. To join the F and K wooden boards, put K on the table and holding F in place, hammer in the T-shaped wooden piece to secure as shown in the diagram below. Do not hammer the T's too far into their holes or the wood will start to splinter.

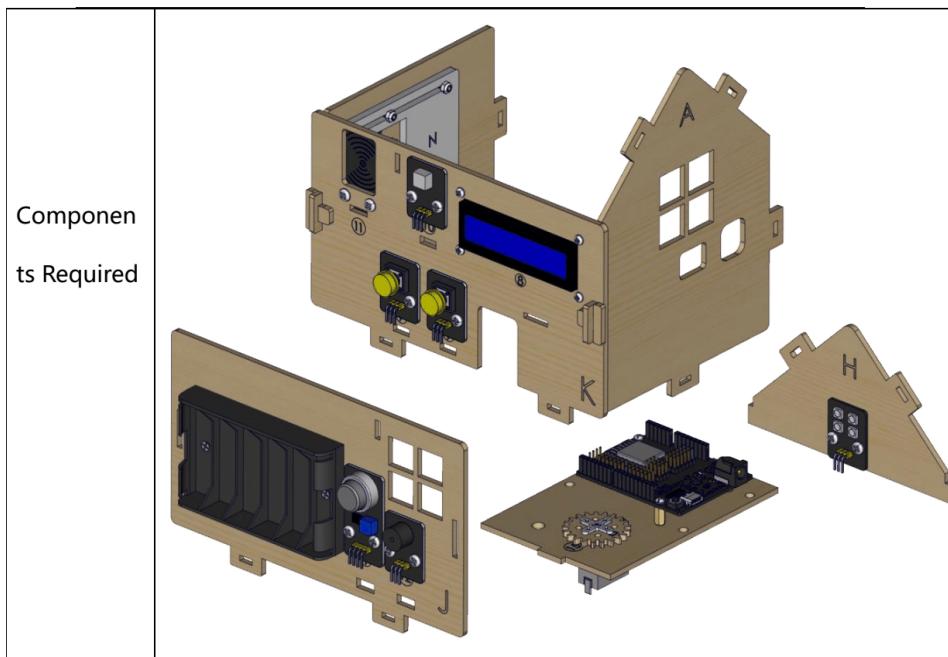
Installation
Diagram



Repeat these steps when attaching wooden board A to K. Be careful to have all letters facing outwards.



Collect all remaining components; board M, board I, board J, and board H and place them in front of you.



Slide wooden board J into the standing walls to complete the houses shell. Do not attach with T-pins yet. Then slide wooden board M with the development board up into the corresponding slots in the interior of the house (just below the display). Do the same with the H-piece on the opposite side of the house (see prototype image below for reference). Then install T-pins to hold

board J in place.

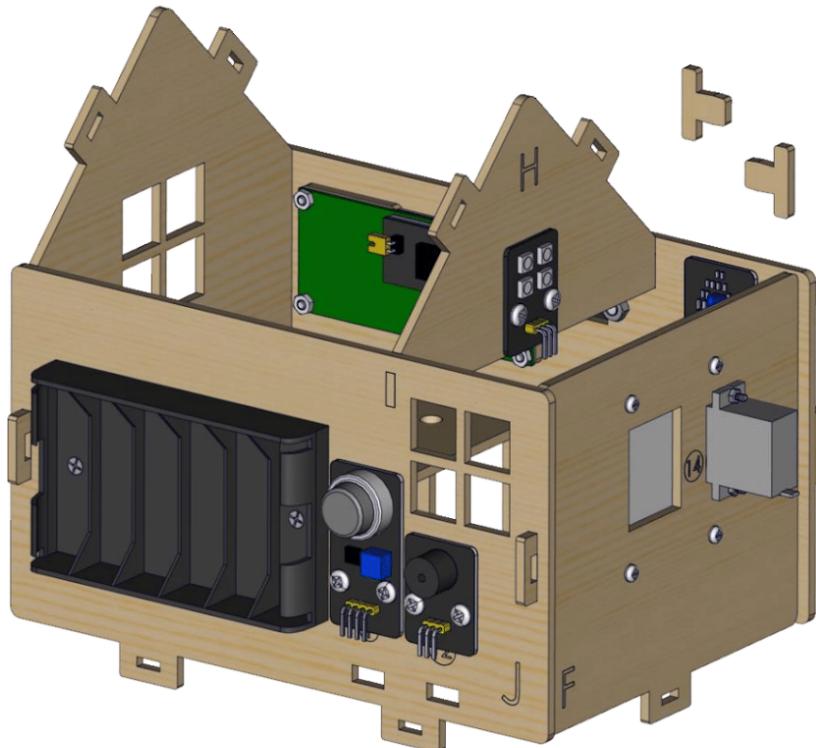
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Prototype

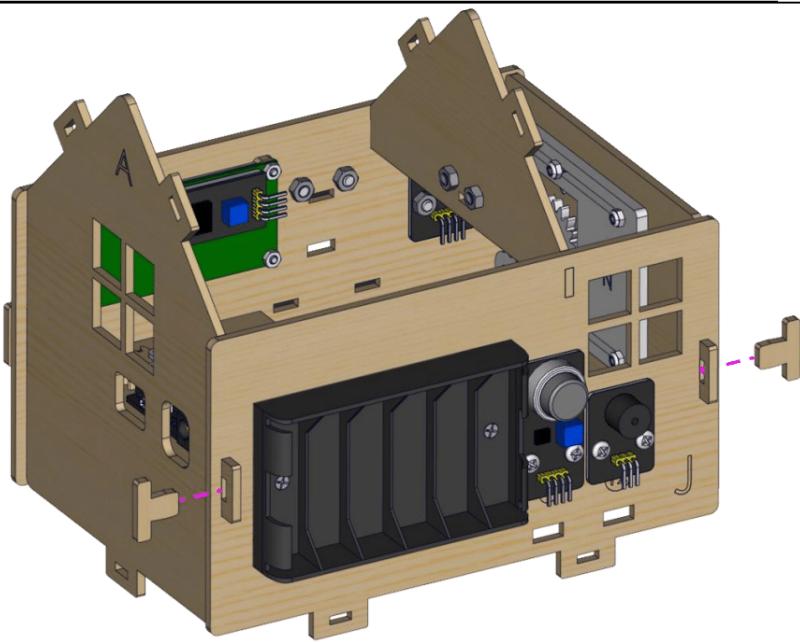


Step 14

Components Required

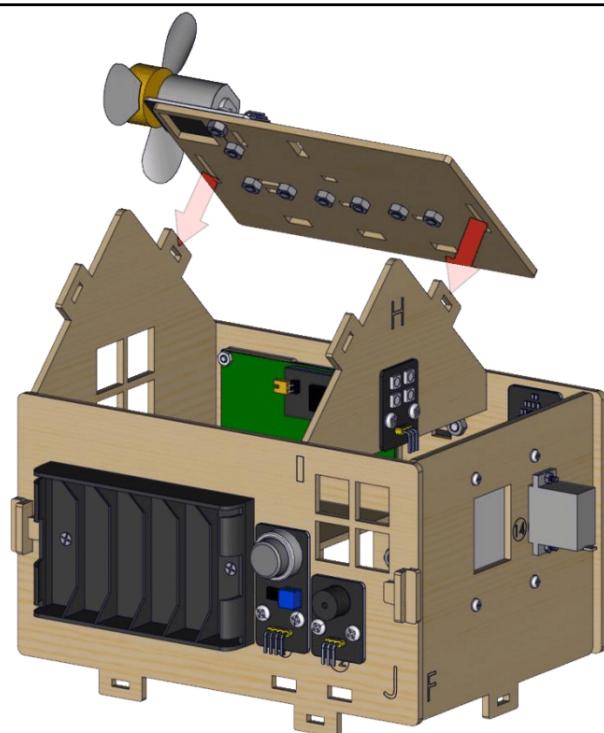


Installation
Diagram

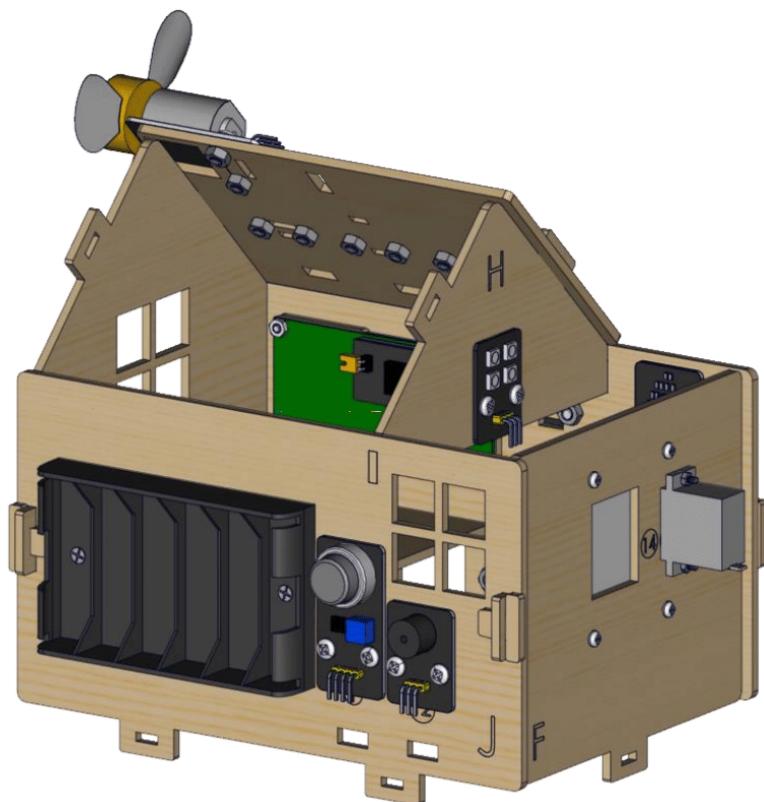


Attach panel "I" to the form the roof of the house. Install on side above the display module. Secure with 2 T shaped wooden pieces using the hammer. Then attach the fan to it's motor.

Installation
Diagram



Prototype



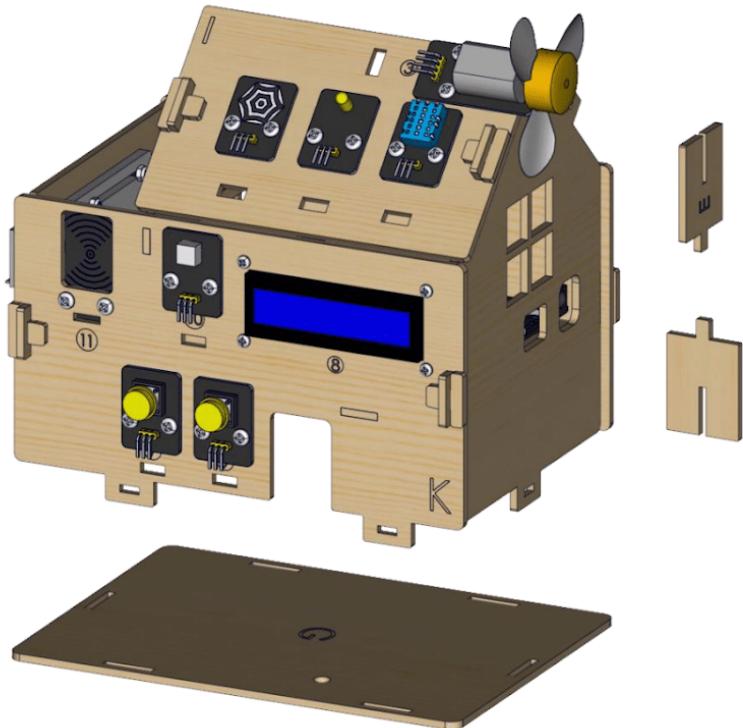
Slide E pieces into each other to form a “+” sign from the top. Hammer them together as much as you can without breaking the tops off or splintering the wood. Place underneath board M and slide board G underneath. Make sure that the hole in board G lines up with the hole in board M. This may require a partner (see installation diagram).

Prototype

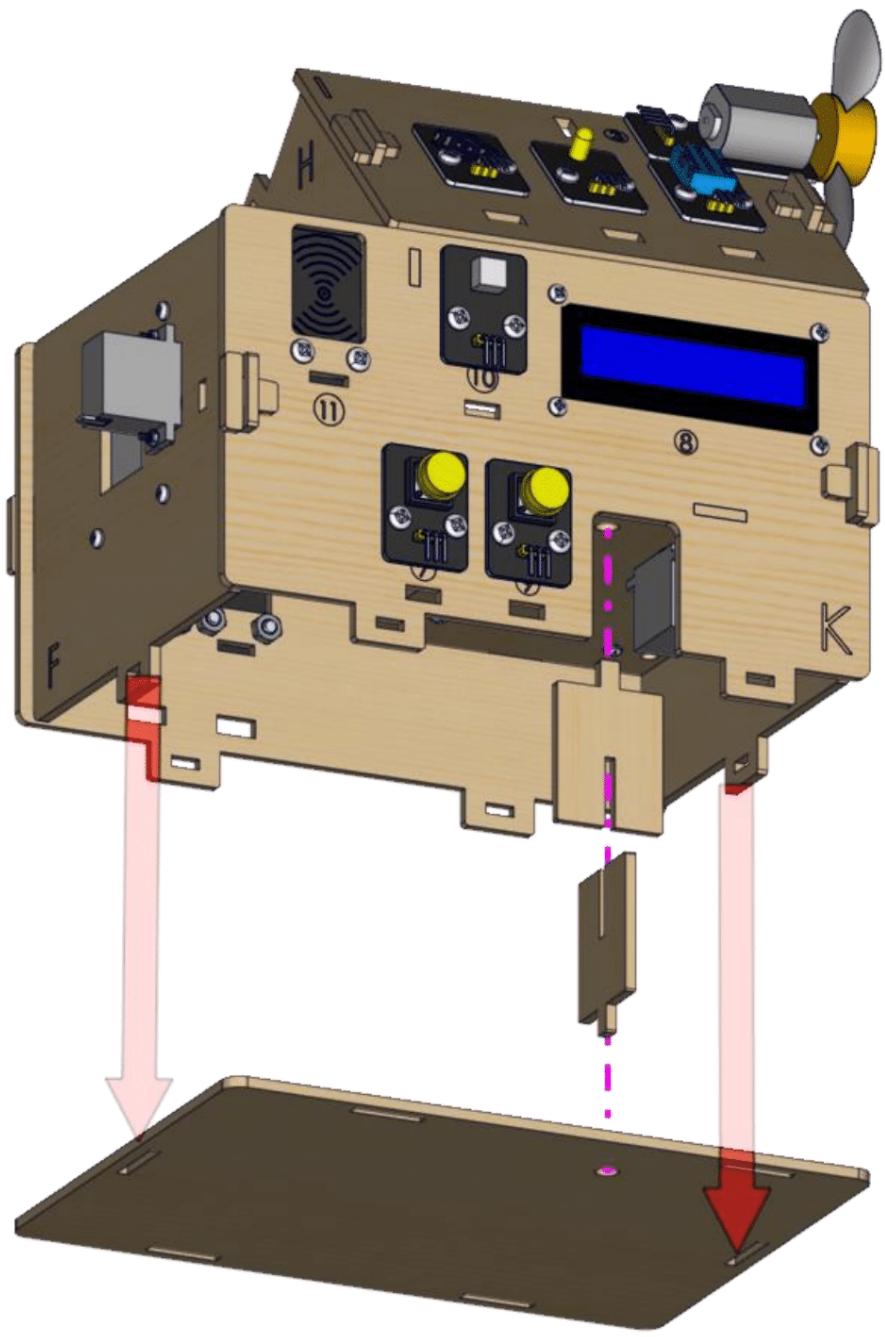


Step 17

Components Required

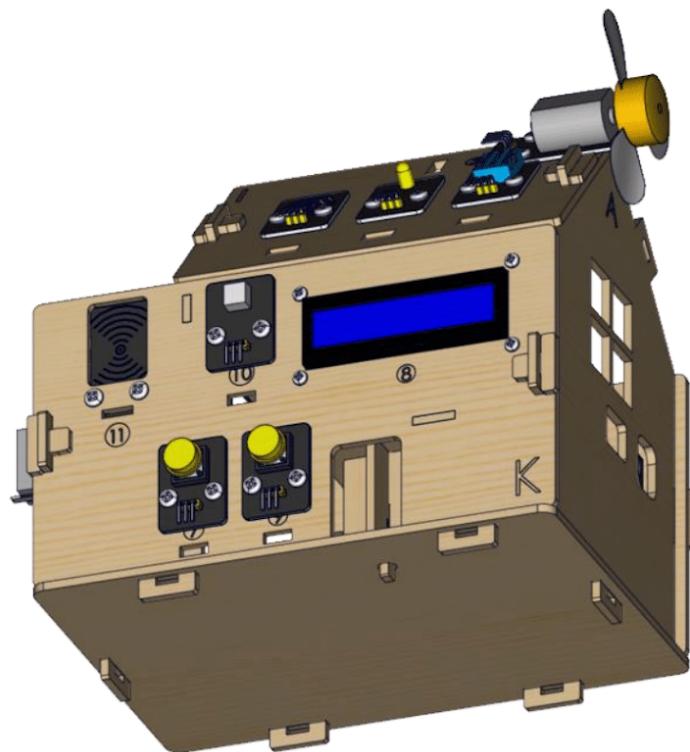


Installation
Diagram



Secure with the remaining 6 T-shaped pieces hammered into place.

Prototype

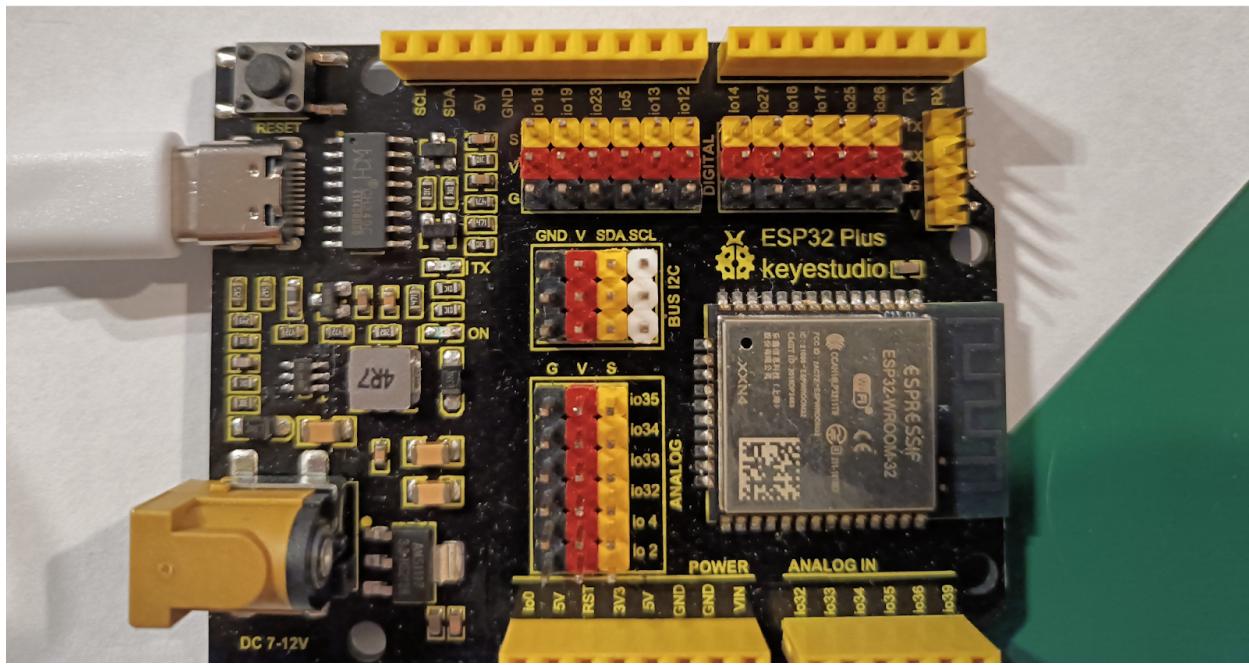
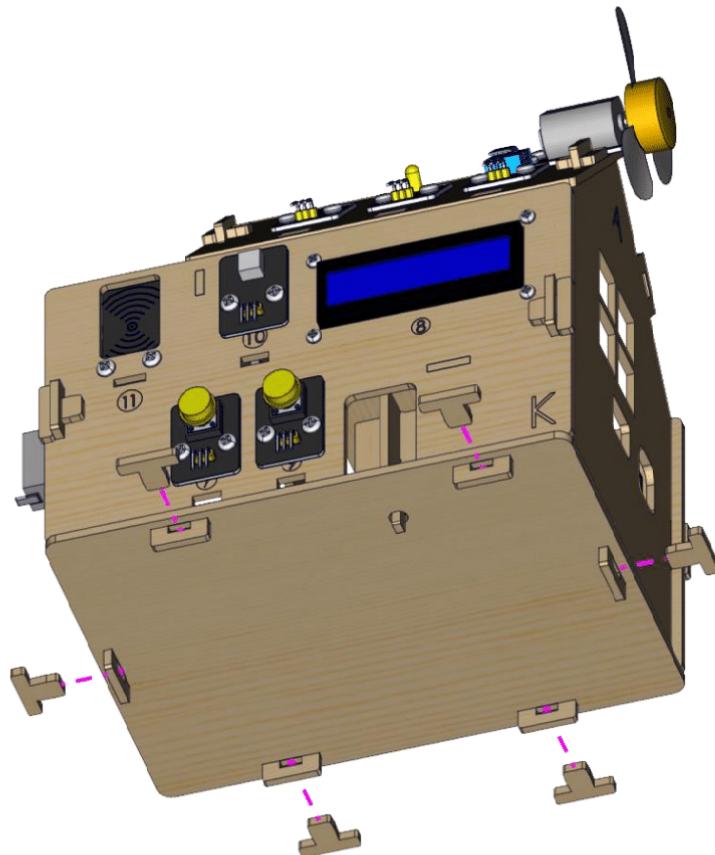


Step 18

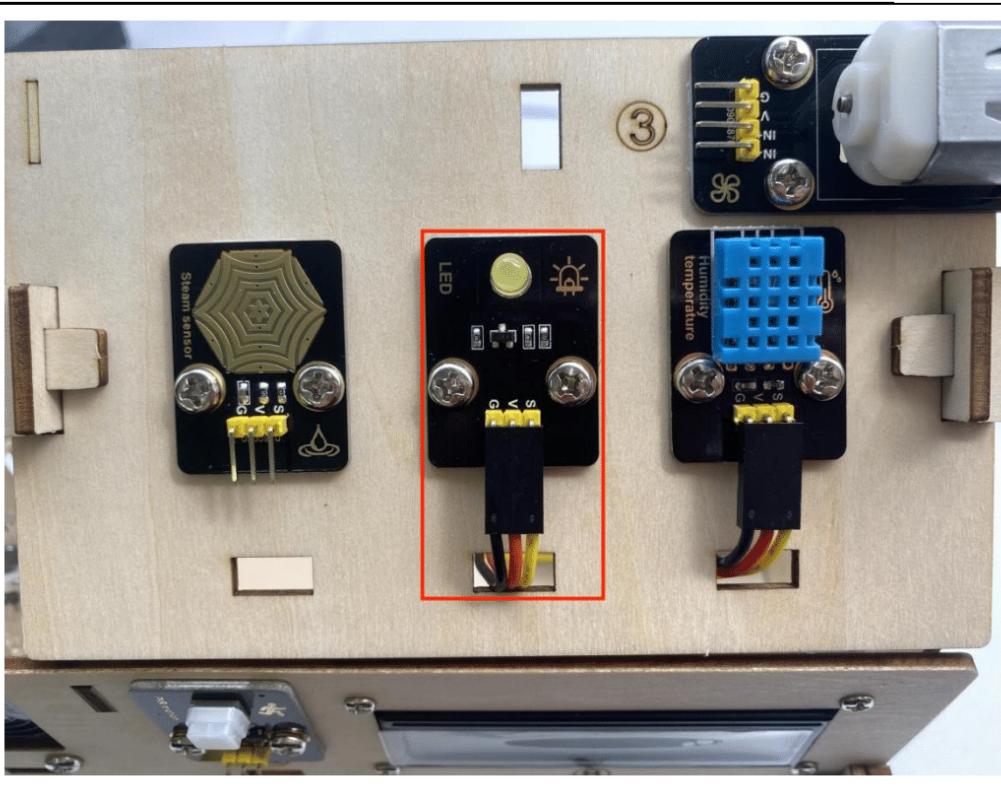
Components Required

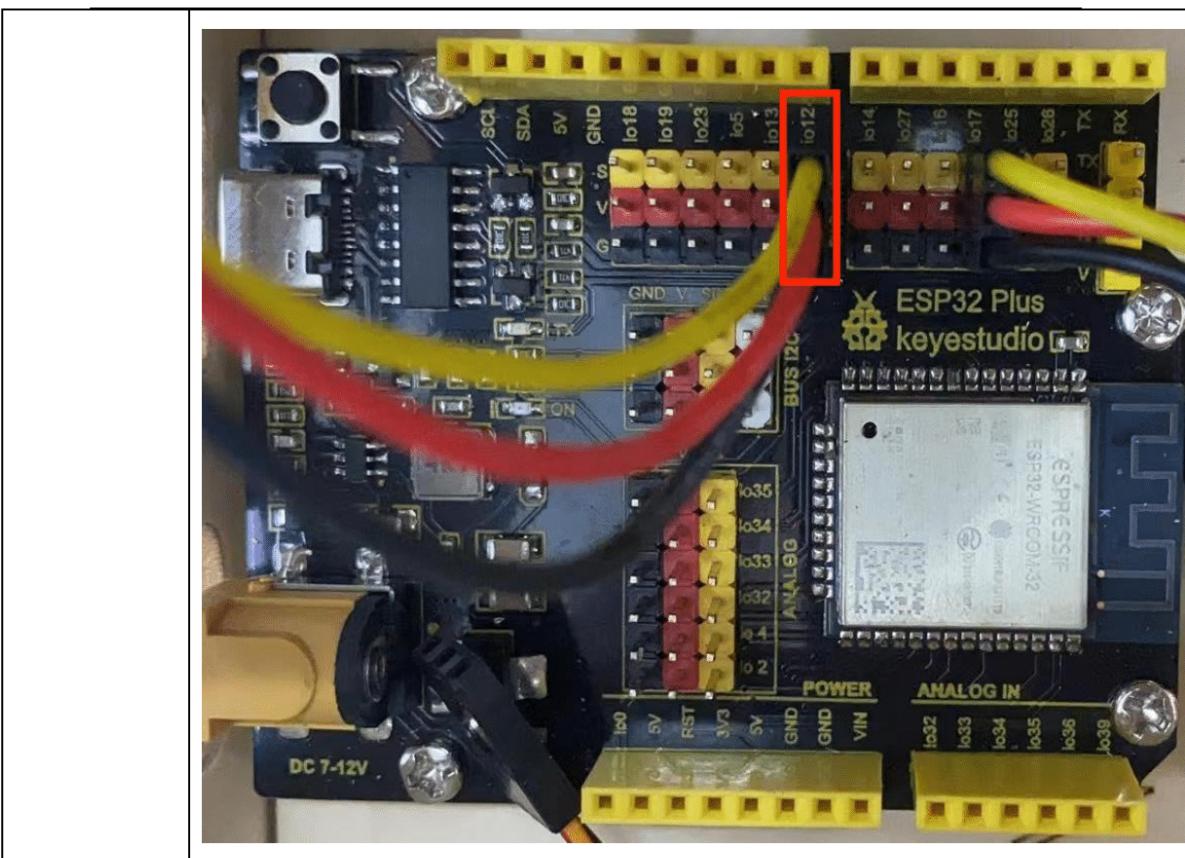


Installation Diagram

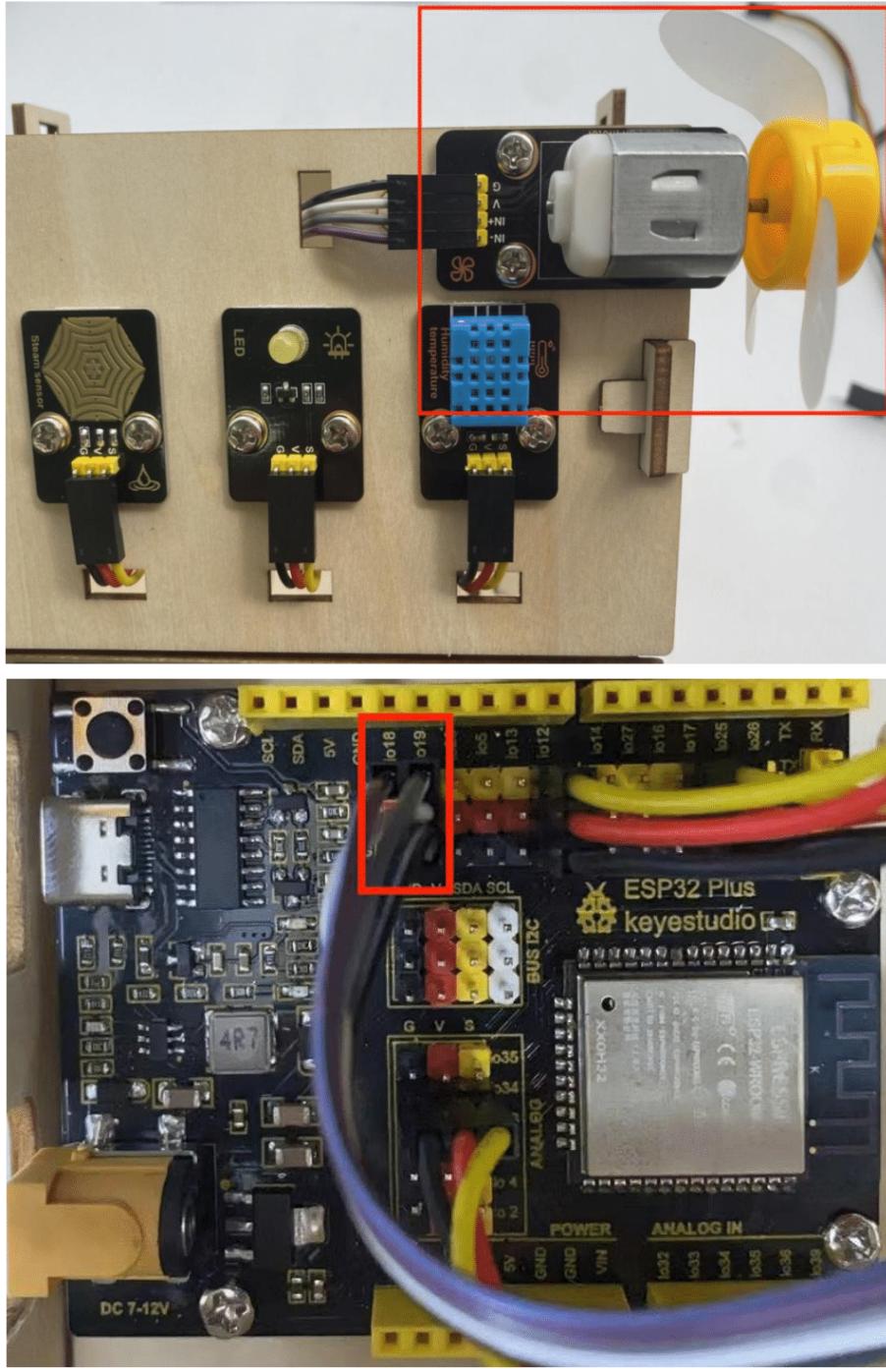


Connect
the
yellow
led
module
to the
io12
interface

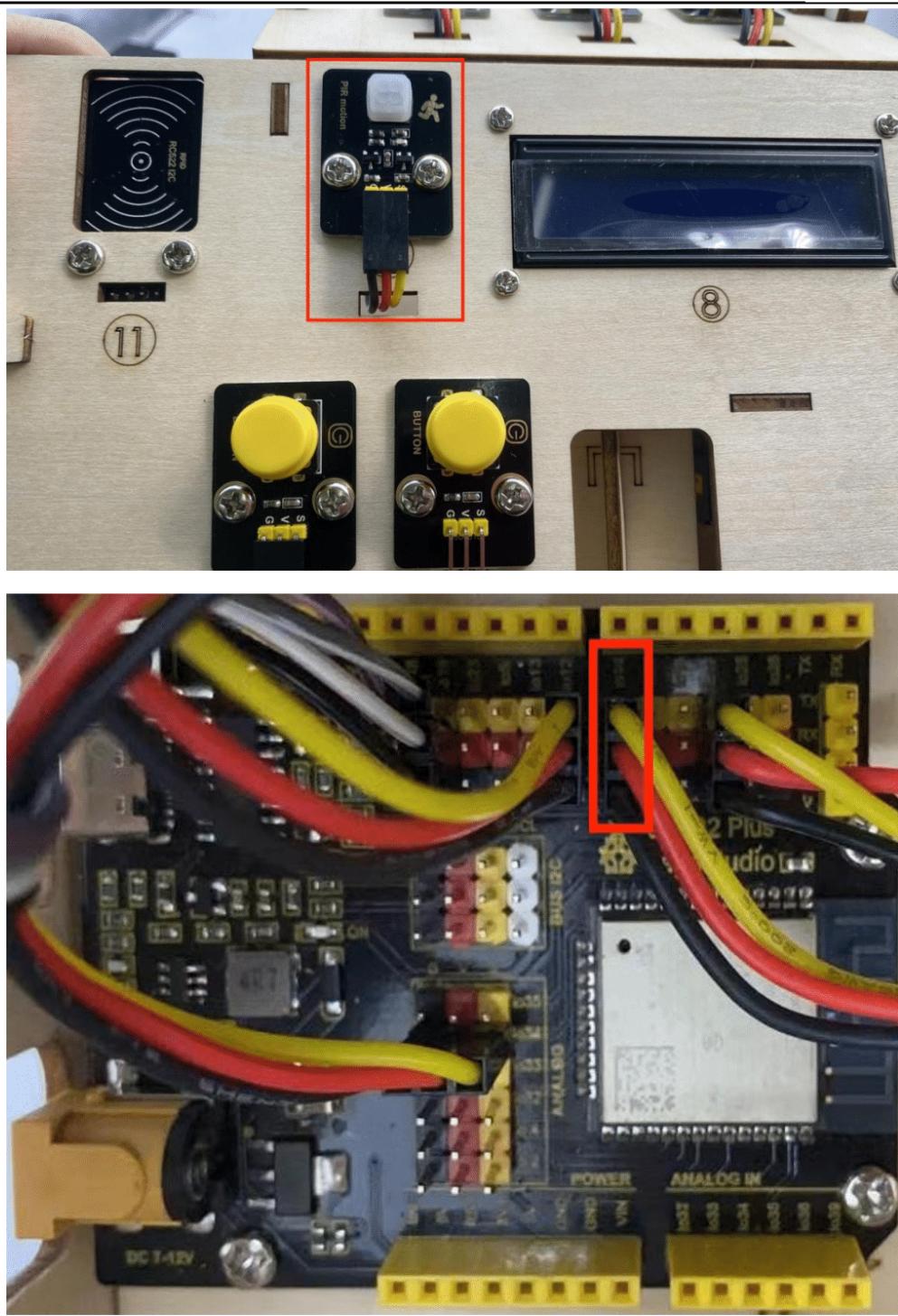




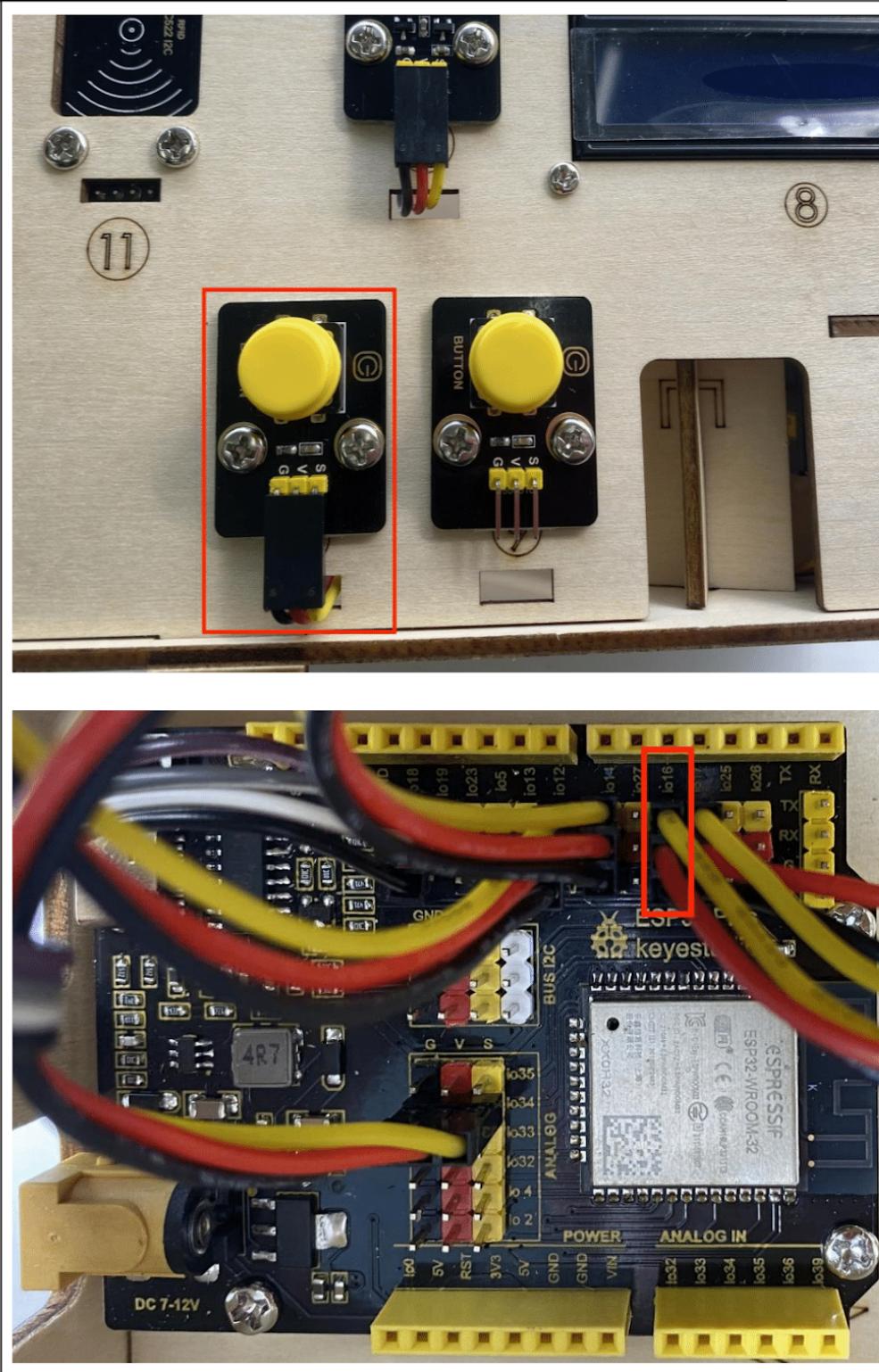
The
wiring of
the fan
(IN-
correspond
s to io18,
IN+
correspond
s to io19)



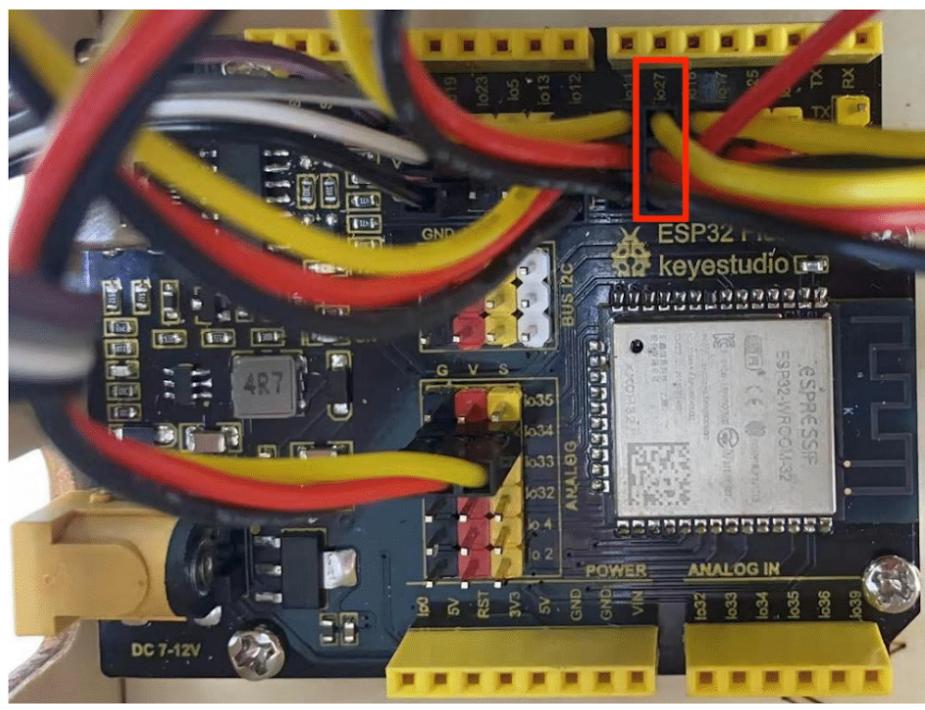
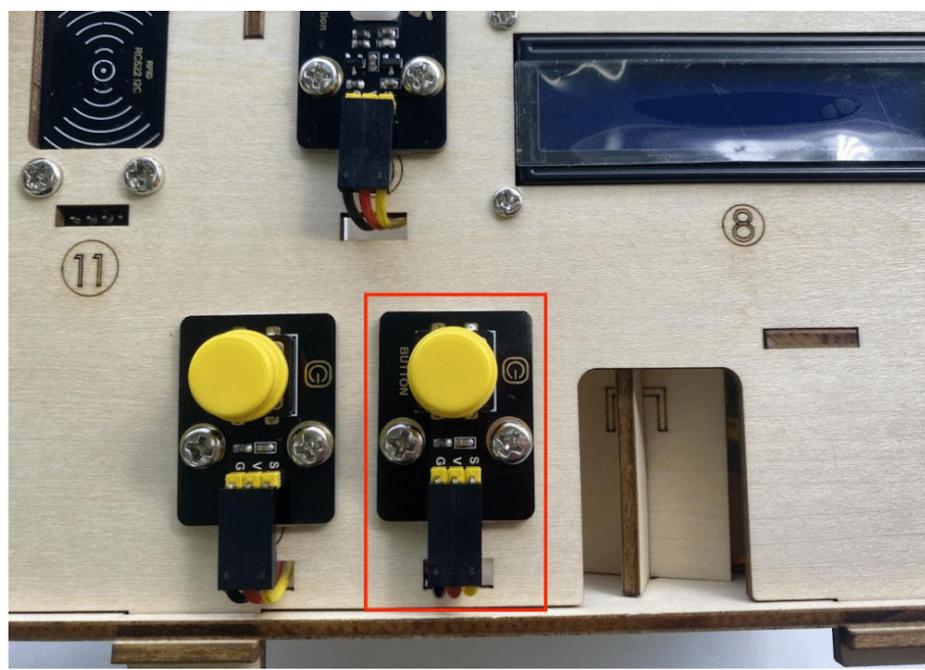
Connect
the PIR
motion
sensor
to the
io14
interface



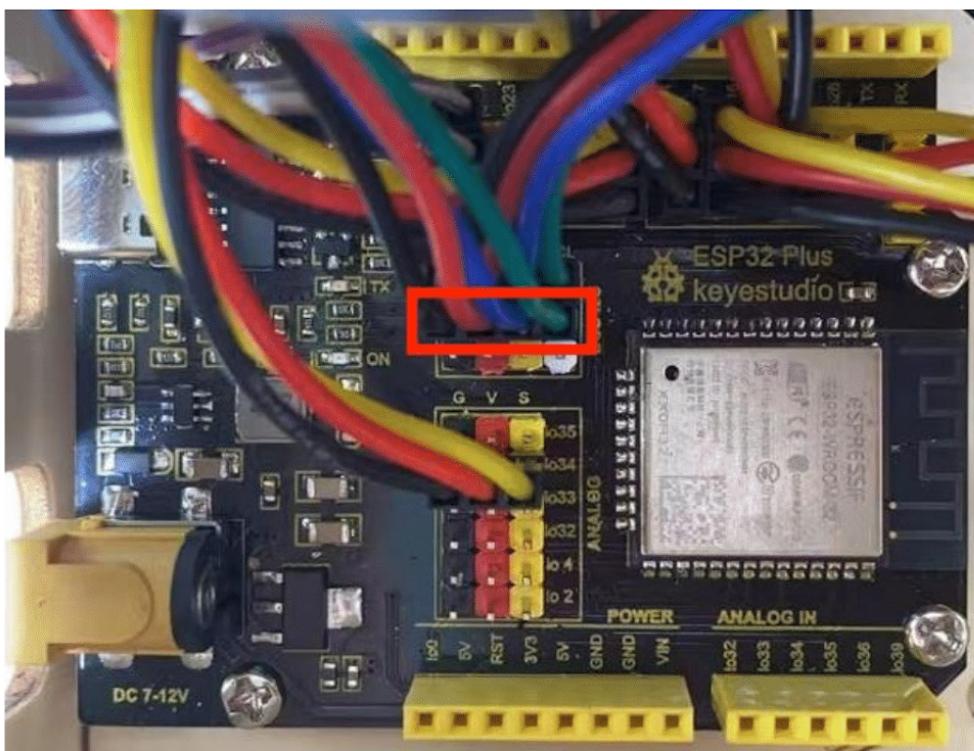
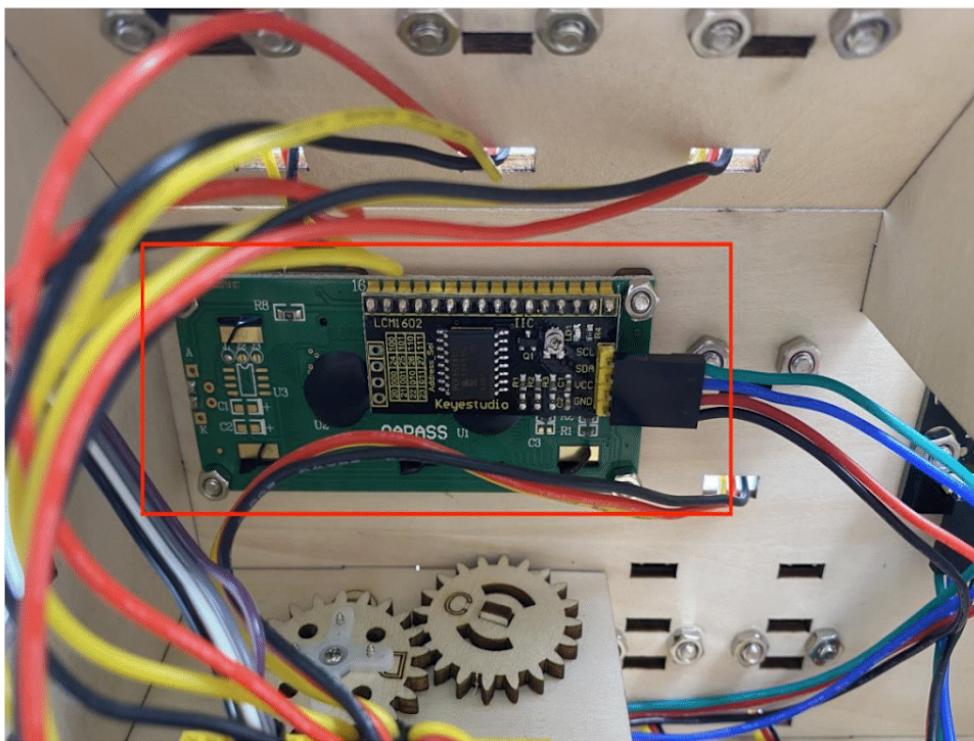
Connect
the left
button
module
to the
io16
interface



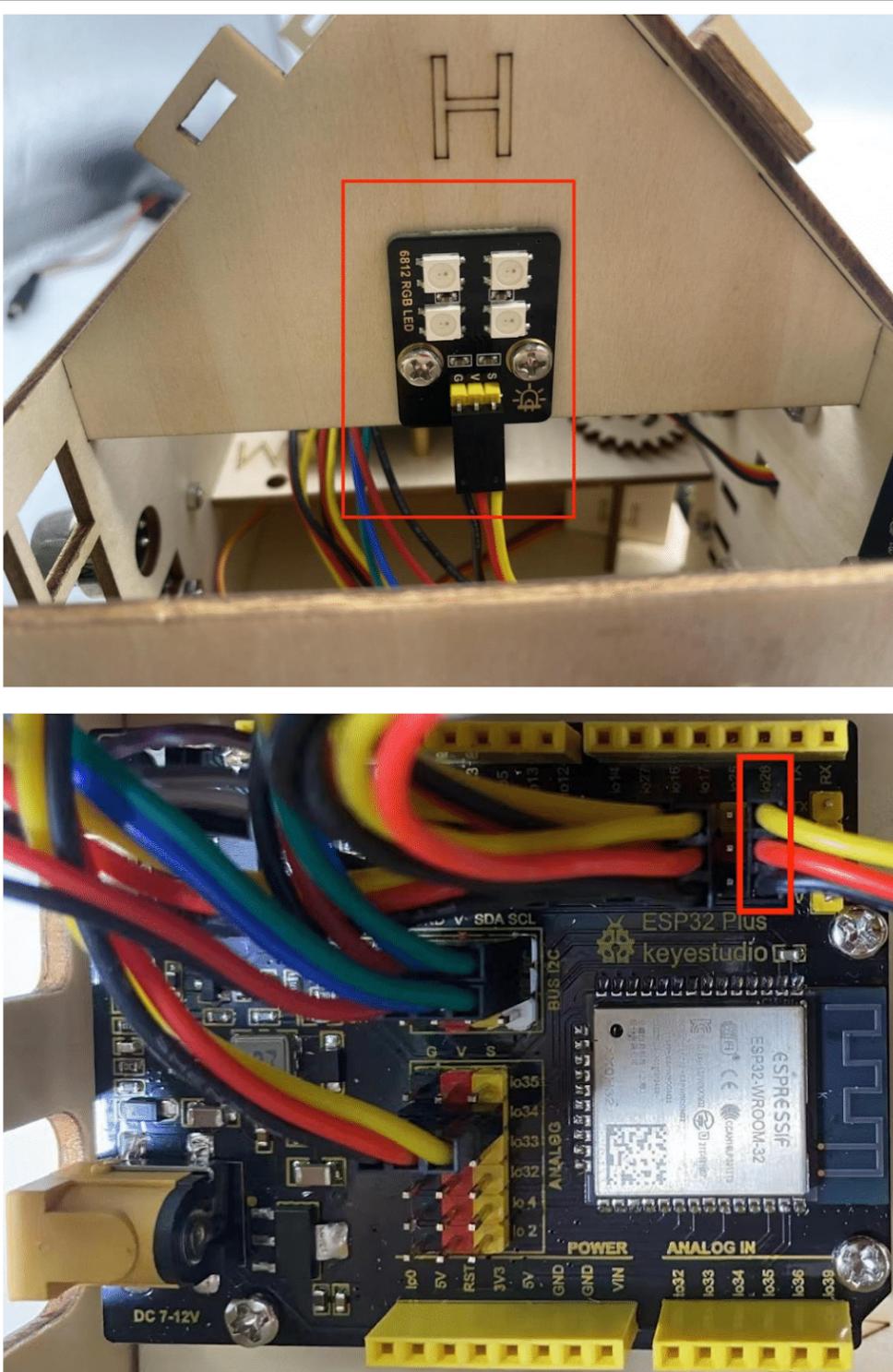
Connect
the right
button
module
to the
io27
interface



Connect
the
LCD160
2 display
to the
IIC
interface



Connect
the
6812RG
B LED to
the io26
interface



Connect
the
buzzer
sensor
to the
io25
interface

