HS-A03 Human motion detection sensor

Learning kit assembly instructions

Product Introduction

The Human Motion Detection Sensor is a smart kit that combines active buzzers, LED lights, occupancy sensors and other accessories.

This kit enables functions such as burglar alarm sound and sensor light.

You can also modify the sample program through programming software such as Arduino IDE, Mixly or write a new program yourself to control the human body sensor alarm.

This product must be paired with a U+ program card
(U+ PROGRAM CARD) USE
U+ Program card Support Arduino IDE, Programming software such as Mixly, Ardublock, Scratch, etc

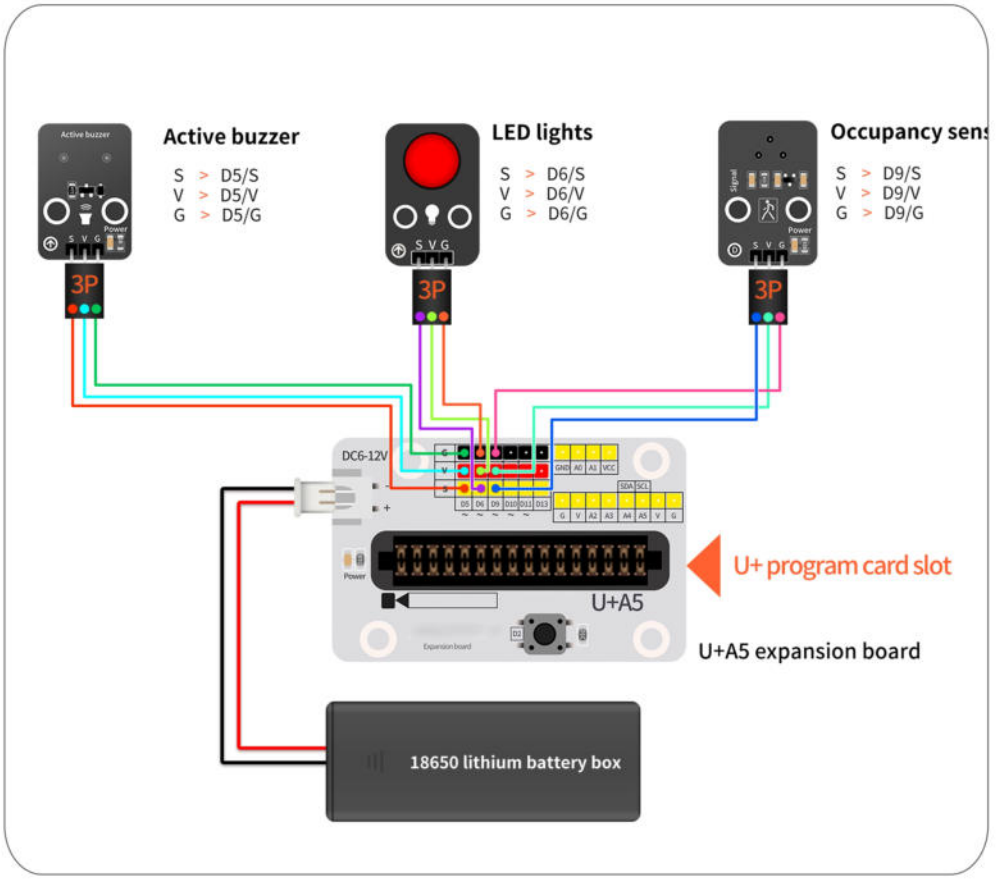
Preparation of tools and assembly considerations

Self-equipped assembly tools: 3mm diameter Phillips screwdriver, scissors.

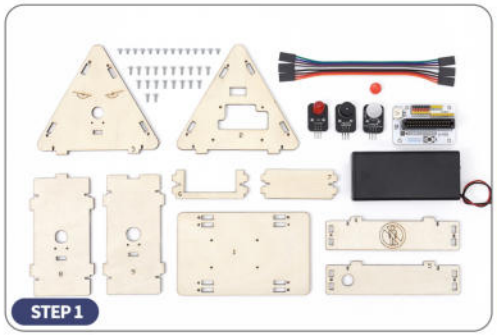
Self-provided debugging tools: 1 computer with Windows 7, 8, 10, 11 operating system, 1 U+ program card, 1 data cable, 1 pair of 18650 lithium battery.

If you want to easily assemble the kit, you need to read the assembly manual carefully, assemble step by step

Warning: Persons under the age of 14 must be under the guidance of a professional teacher or knowledgeable adult!
The assembly and debugging of the product require the use of relevant tools, please take safety precautions when assembling to avoid injury!
This product is a teaching and experimental product, please do not use its function as a daily necessities, there will be instability!
When you are not using this product, please turn off the power switch on the battery compartment and remove the battery, keep the battery safe!



● Circuit wiring reference diagram



● Prepare all accessories and wood materials, and carefully check the number on the materials when assembling the wood materials.**(The board has a number side as the front and no number as the back)**

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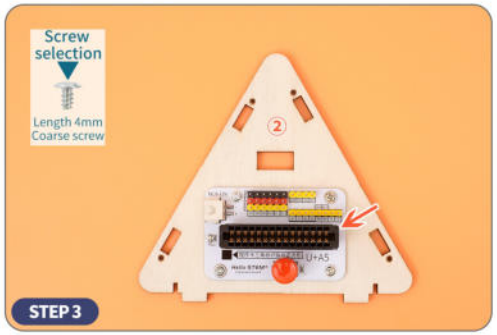
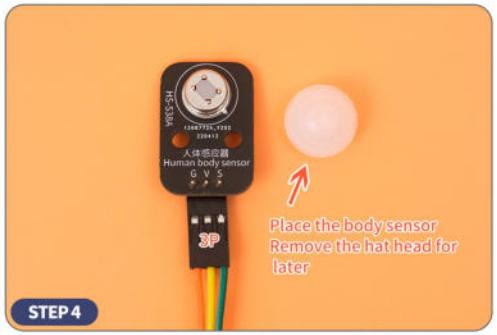
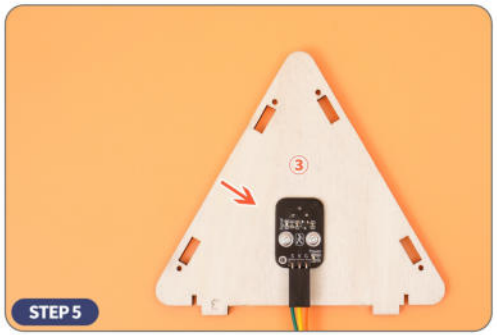


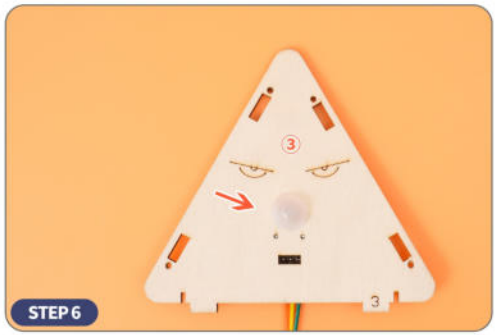
- Referring to the figure above, fix the U+A5 expansion board on the front of board (2) with 4mm rough screws.**(Note the alignment of the expansion plate hole position of plate (2)**



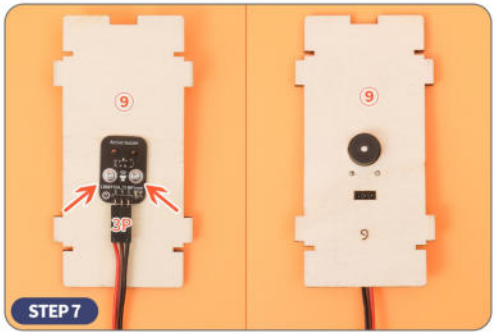
- Referring to the picture above, plug one 3P DuPont cable port into the [S, V, G] of the body sensor, and then remove the cap head of the body sensor for backup.



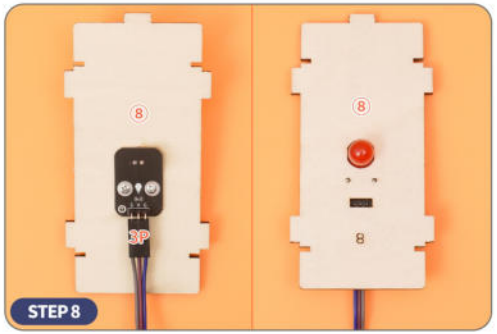
- Referring to the picture above, the body sensor is fixed to the back of the (3) plate with 4mm coarse grain screws.



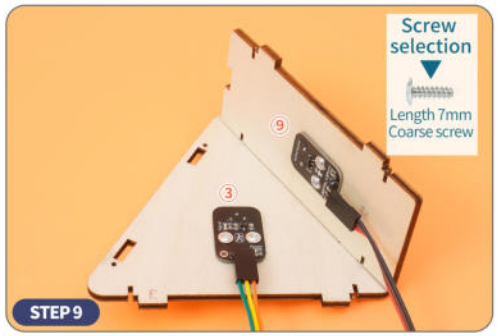
- Refer to the picture above, fix the cap head of the body sensor on the front of plate (3).



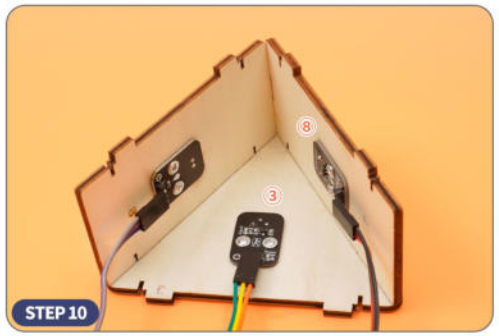
- Referring to the picture above, plug one 3P DuPont cable port into the [S, V, G] of the active buzzer, and then fix the active buzzer to the back of the (9) board with 4mm coarse grain screws.



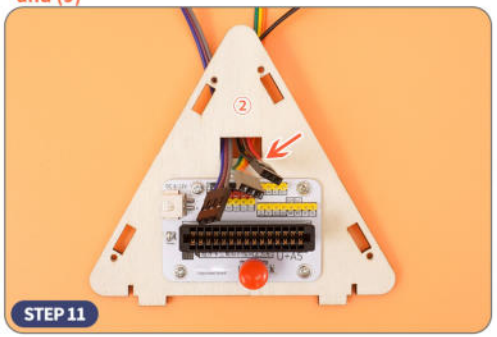
- Referring to the picture above, plug one 3P DuPont cable port into the [S, V, G] of the LED lamp, and then fix the LED lamp with 4mm coarse screws on the back of the (8) board.



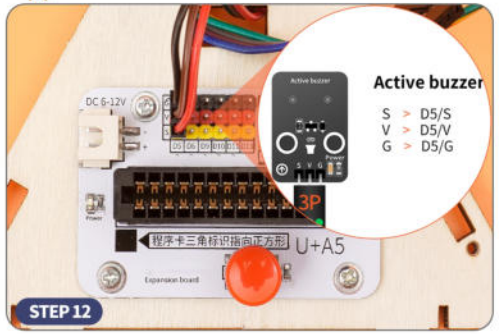
- Referring to the figure above, board (9) is mounted on board (3) with the digital side facing outward, and fixed on the front of board (3) with 7mm rough screws.**(Note the mounting orientation of plates (3) and (9)**



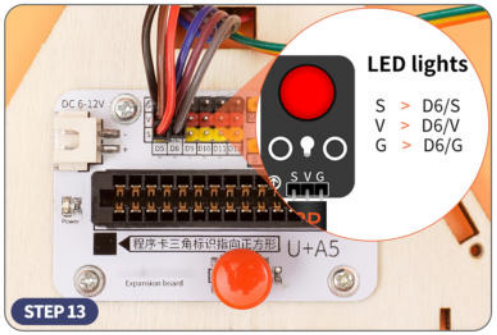
- Referring to the figure above, mount board (8) on board (3) with the digital side facing outward, and fix it on the front of board (3) with 7mm rough grain screws.**(Note the mounting orientation of plate (8)**



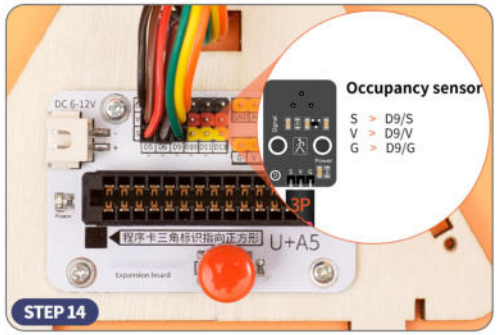
- Referring to the figure above, thread all the wires out of the hole of plate (2) to the side of the expansion board.



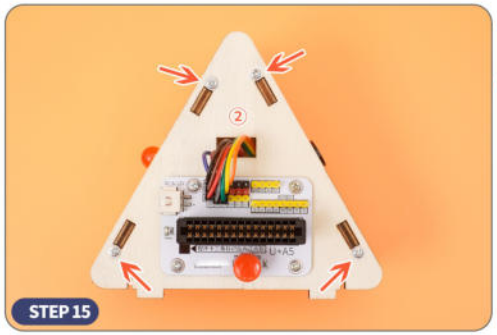
- Refer to [Circuit Wiring Diagram] to plug the active buzzer wire port into the [D5] interface on the expansion board.**(Please check the port order before inserting, the wrong insertion of the wire order may burn the board)**



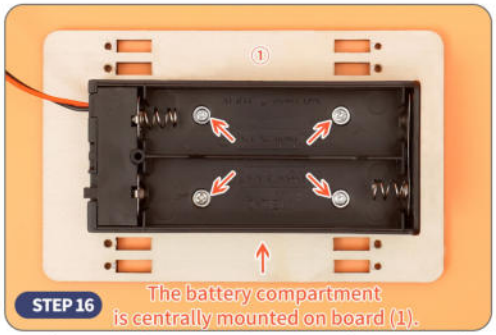
- Refer to [Circuit Wiring Diagram] to plug the LED light wire port into the [D6] interface on the expansion board.**(Please check the port order before inserting, the wrong insertion of the wire order may burn the board)**



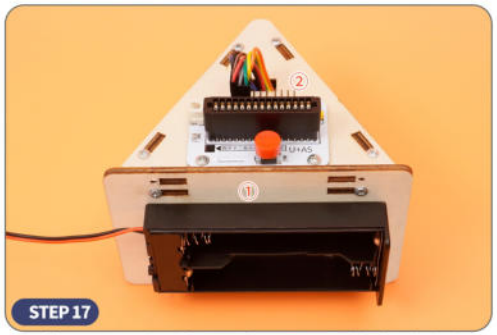
- Refer to [Circuit Wiring Diagram] to plug the body sensor lead port into the [D9] interface on the expansion board.**(Please check the port order before inserting, the wrong insertion of the wire order may burn the board)**



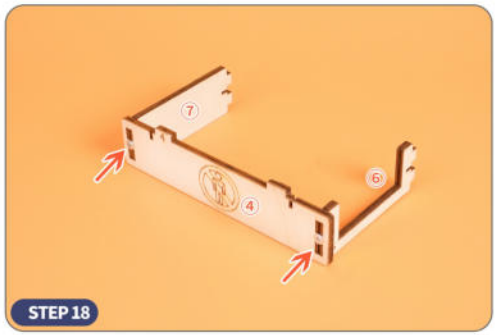
- Referring to the picture above, install board (2) on board (8) and (9) and fix it with 7mm rough screws.



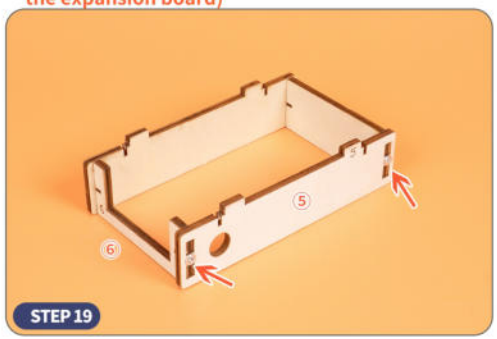
- Referring to the picture above, install the battery box on board (1) and fix it with 4mm coarse screws.**(Note that the battery compartment is centrally mounted on board (1))**



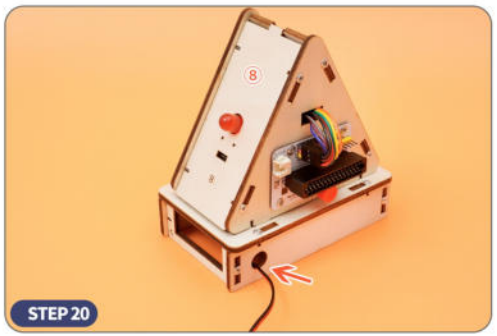
- Referring to the figure above, install the (1) plate battery box outward on the bottom of the STEP 15 assembled module and fix it at the bottom with 7mm rough screws.**(When installing, the battery compartment leads are facing the power connector of the expansion board)**



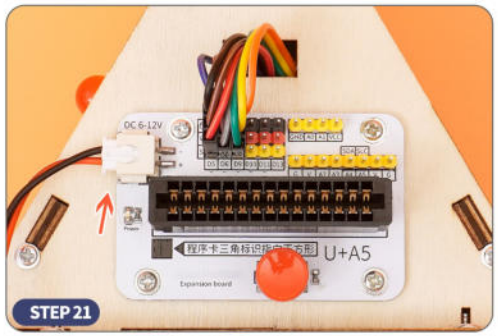
- Referring to the above figure, install the (6) and (7) plates on the (4) board and fix them with 7mm rough screws.**(Note that the bayonet of board (4) is facing up)**



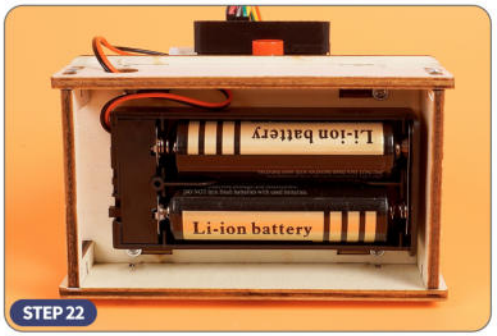
- Referring to the picture above, install the round hole of plate (5) towards board (6) and fix it with 7mm rough screws.**(Note that board mount (5) is facing up)**



- Referring to the figure above, mount the base assembled by STEP 19 on the module assembled by STEP 17, thread the battery box wires out of the (5) board, and finally fix it with 7mm rough-grained screws.**(Note that board (6) faces board (8) this side)**



- Refer to [Circuit Wiring Diagram] to insert the battery box wire port into the [DC 6-12V] power interface on the expansion board.

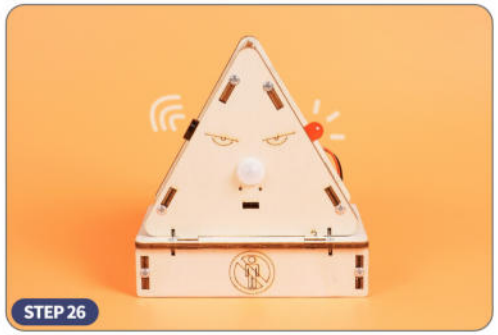


- Load the 18650 battery into the battery compartment.

- Refer to the above figure, install the battery compartment cover and turn on the power, the power switch is on the side with the wire, [ON means the power is on, OFF means the power is off].

- Use the Mixly software to select the corresponding development board (Adruino AVR or Adruino UNO), set the COM port, open the corresponding sample program, and upload the sample program of the kit to the U+ program card.

- Refer to the figure above and insert the program card into the card slot on the expansion board.**(Note the program card insertion direction, the program card triangle identification points to the expansion board slot square identification)**

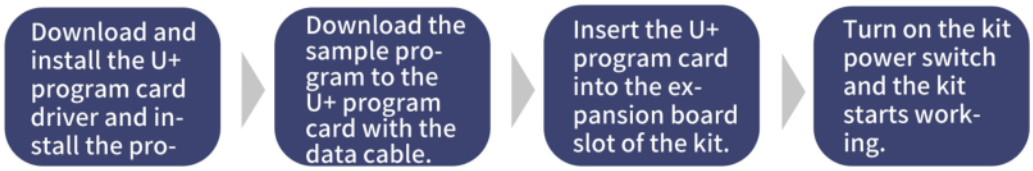


- Function 1: When the body sensor detects the movement of the human body, it will flash a red light and sound an alarm.
  Function 2: When the human body sensor detects the movement of the human body, it will light up the red light and only sound an alarm.

After the assembly is completed, you also need to check whether the installation is correct to avoid danger during commissioning!

1. Carefully check whether the whole kit has the wrong accessories, if there are wrong accessories, it will cause the whole kit to not operate normally.
2. Carefully refer to the circuit connection reference diagram to check whether the wire connection is correct, the wrong wire connection will cause the circuit to short circuit, burn the electronic components, and seriously lead to fire, explosion and other dangerous situations.
3. Carefully check whether the pins at the bottom of the circuit board accessories are in contact with other metals, and if there is contact, please check whether the accessories are not installed, resulting in the circuit board and other metals are not isolated.
4. Please check the power supply type and battery model used in this kit, the wrong use of the power supply or battery will cause fire, explosion and other dangerous situations.
5. If you encounter problems that you do not understand, please contact the online customer service of the official service website or find relevant professionals for consultation during working hours from Monday to Saturday 9:00-18:00, do not operate blindly, otherwise there will be danger.

Refer to the procedure below to debug the kit



You may encounter the following problems during debugging, refer to the tips below to see if you can troubleshoot!

1. Check whether the wiring is loose or incorrectly connected, please refer to the circuit wiring diagram for details.
2. Check whether the battery has run out of power, it is recommended to replace the new battery.
3. Check whether the DuPont wire of the sensor and the expansion board is connected correctly, please refer to the circuit wiring diagram.
4. Check whether the U+ PROGRAM CARD program card has downloaded the program.
5. Check whether the U+ PROGRAM CARD program card is inserted backwards, which will cause short circuits, please refer to the [STEP25] card insertion method for inserting the card.