

HS-B05 Gluttonous bear, learning kit assembly manual



This product must be equipped with a U + program card.(U + PROGRAM CARD) Use U+ PROGRAM CARD SUPPORT Arduino IDE, Mixly, Ardublock, Scratch etc. Programming software



Warning: Persons under the age of 14 must use it under the guidance of a professional teacher or an adult with relevant knowledge!
The assembly and debugging of this product require the use of relevant tools. Please take safety precautions when assembling to avoid injury!

Product introduction

Gluttony Bear is a smart kit composed of 9g steering gear, infrared detection sensors and other accessories. This kit allows objects to be placed on the board in front of the bear, which will be recognized and placed in its stomach.

You can also modify the sample program through programming software such as Arduino IDE and Mixly, or write a new program yourself to control the gluttonous bear.

Preparation tools and assembly precautions

Bring your own assembly tools: 3mm diameter cross screwdriver, scissors.

Bring your own debugging tools: 1 computer with Windows 7, 8, 10, and 11 operating systems, 1 U + program card, 1 data cable, and 1 pair of 18650 lithium batteries.

If you want to easily assemble the kit, you need to read the assembly instructions carefully and assemble it step by step.

Safety Warning: ⚠️

1. This product is intended for educational and experimental purposes only. Please do not use its functions as a regular household item, as it may be unstable.
2. When not using this product, please turn off the power switch on the battery box and remove the batteries. Store the batteries safely.



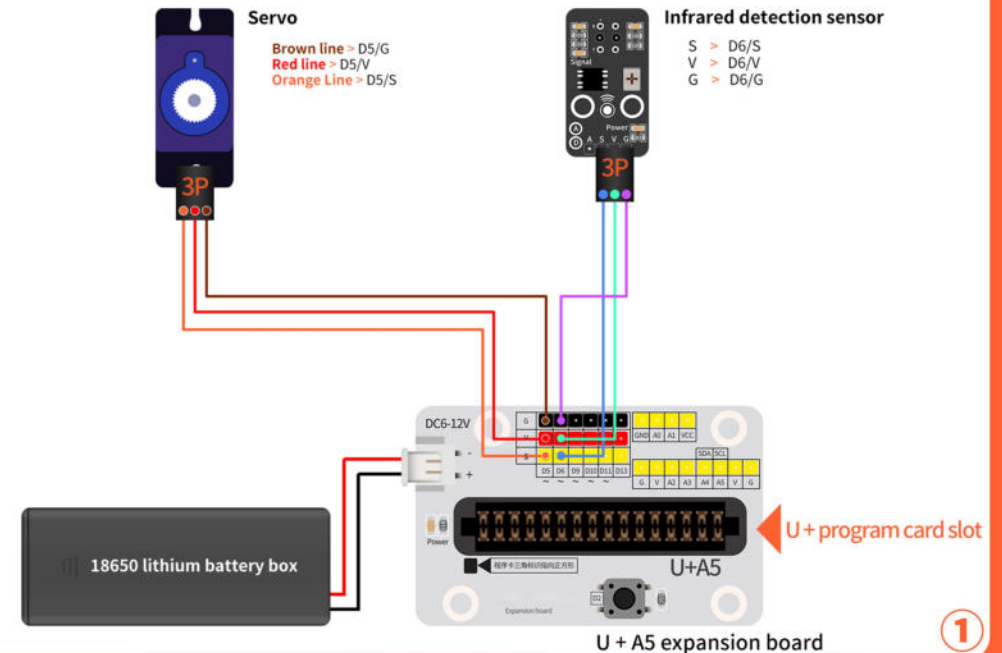
List of experimental materials

[Self-provided materials are not in this product kit and need to be equipped by yourself]

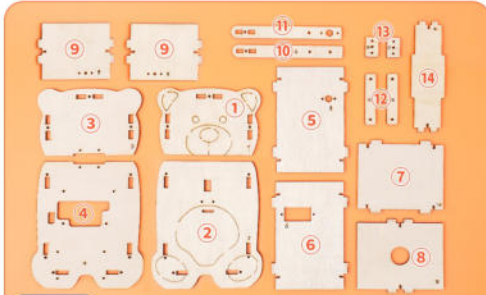
	name	Image	name	Image	name	Image
1	micro usb data cable (Owned)	1*	U+ program card (Owned)	1*	18650 pointed lithium battery (Owned)	1*
4	18650 Lithium battery box	1*	press cap + hinge + White Gear	1* 1* 1*	U+A5 expansion board	1*
7	1.3Cm Head shaft + 2.1Cm Head shaft + 3Cm iron shaft	2* 2* 1*	Infrared detection sensor	1*	9G servo + Servo disk	1* 1*
10	4mm Coarse grain screw + 7mm Coarse grain screw	16* 29*	subject Structural plate	1*	Fixed ring + 3P DuPont Line (20Cm)	7* 1*

circuit wiring diagram

[The color of the DuPont line is randomly distributed. For line connection, please refer to the identification information corresponding to the entrance!]



Start assembly



STEP 1

- Prepare all accessories and board materials, please check the number on the material carefully when assembling the board materials. **(The wooden board has a number face for the front, no number for the back)**



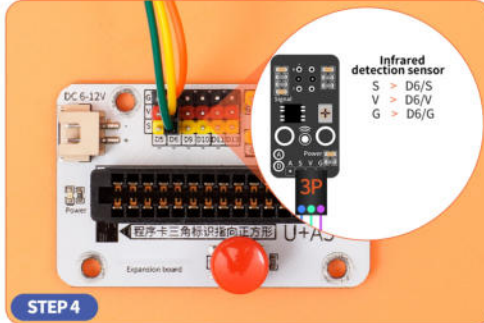
STEP 2

- Referring to the picture above, install the infrared detection sensor on the back of plate ②, fix it with 4mm rough-grain screws, and finally insert the 3P DuPont wire port into the [S, V, G] of the infrared detection sensor.



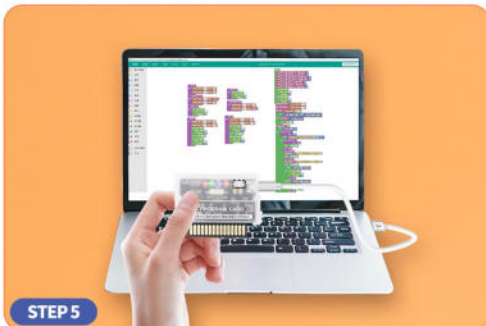
STEP 3

- Install the red button cap on the U + A5 expansion board.



STEP 4

- Refer to [Circuit Wiring Diagram] and plug the infrared detection sensor DuPont cable port into the [D6] interface on the expansion board. **Please check the port wiring sequence before inserting it. Wrong wiring sequence may burn out the circuit board.**



STEP 5

- Use Mixly software to upload the first example program of the kit to the U + program card.



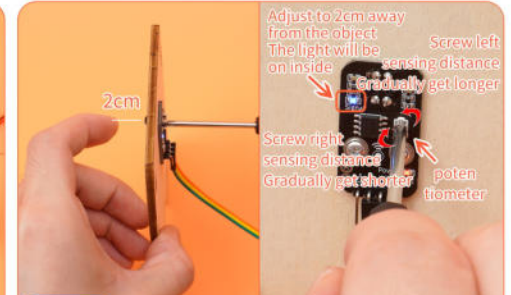
STEP 6

- Insert the program card into the slot on the expansion board, referring to the diagram above. **Pay attention to the insertion direction of the program card. The triangle logo of the program card points to the square logo of the expansion board slot.**



STEP 7

- Referring to the picture above, the first step is to load the 18650 battery into the battery case, then turn on the power switch, and the second step is to refer to the [circuit wiring diagram] and insert the battery case wire port into the [DC 6-12V] power interface on the expansion board.



STEP 8

- Referring to the above figure, when the infrared detection sensor is powered on, place your hand 2cm away from the infrared detection probe, and adjust the potentiometer of the infrared detection sensor with a screwdriver until the distance between the infrared detection sensor and the hand is within 2cm. The module signal indicates that the blue light is turned on, and the hand is 2cm away from the probe. The module signal indicates that the blue light is turned off, and the debugging is considered successful.



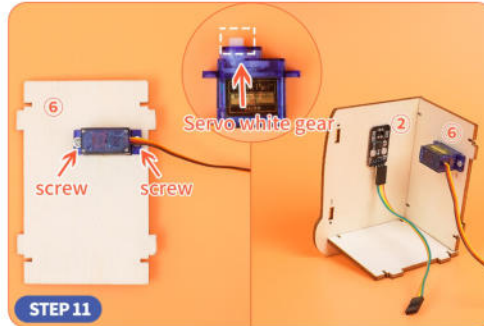
STEP 9

- Refer to the picture above, disassemble the newly assembled components for later use.



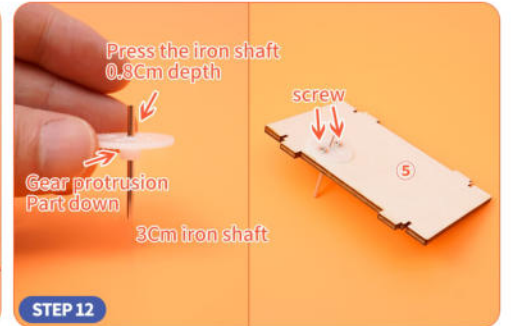
STEP 10

- Referring to the picture above, install the 0006 plate on the back of the ② plate, and fix it with 7mm rough-grain screws on the front of the ② plate.



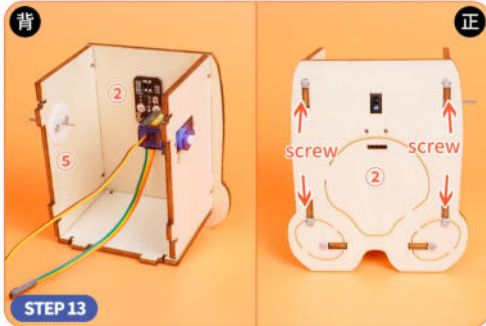
STEP 11

- Referring to the picture above, install one end of the white gear of the steering gear on the front of the No. 6 plate, fix it with 7mm rough-grain screws, and then install the assembled No. 6 plate on the right side of the back of the No. 2 plate. **(Pay attention to the installation orientation)**



STEP 12

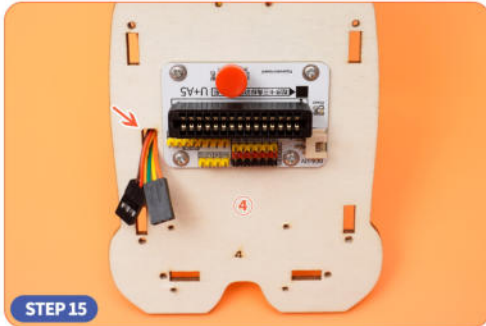
- Referring to the picture above, press the 3cm iron shaft into the white gear to a depth of 0.8cm, and then install the white gear on the back of the No. 5 plate with 4mm rough-grain screws.



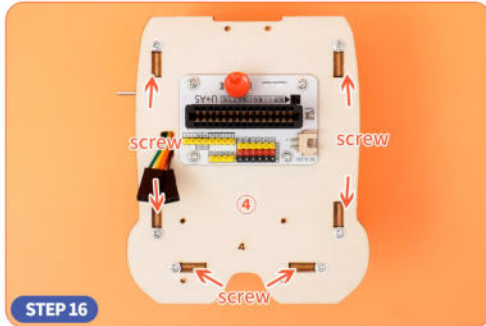
● Referring to the picture above, align the assembled No. 5 plate with the left side of the back of No. 2 plate, and fix it with 7mm rough-grain screws on the front of No. 2 plate. **(Pay attention to the installation orientation)**



● Referring to the picture above, fix the U + A5 expansion board on the side with numbers on the ④ plate with 4mm rough-grain screws. **(Pay attention to aligning the holes of the expansion board on the ④ plate)**



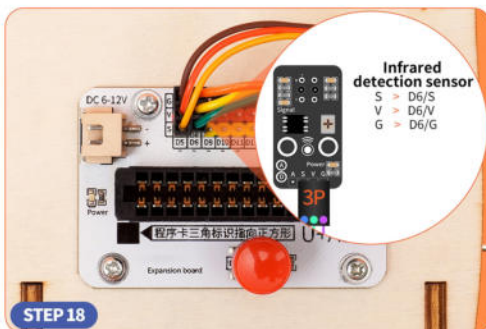
● Referring to the picture above, pass all the wires through the wire holes of plate ④.



● Referring to the picture above, install the assembled ④ plate digital face outward on the STEP 13 assembled module and fix it with 7mm rough-grain screws.



● Refer to the [Circuit Wiring Diagram] and plug the wire port of the servo into the [D5] interface on the expansion board. **(Please check the port line sequence and then insert it. The wrong line sequence may burn out the circuit board)**



● Refer to the [Circuit Wiring Diagram] and plug the DuPont cable port of the infrared detection sensor into the [D6] interface on the expansion board. **(Please check the port line sequence and then insert it. The wrong line sequence may burn the circuit board)**



● Refer to the picture above, install the battery box centrally on the ④ plate, and fix it with 4mm rough-grain screws. **(Pay attention to the installation orientation)**



● Load the 18650 battery into the battery compartment.



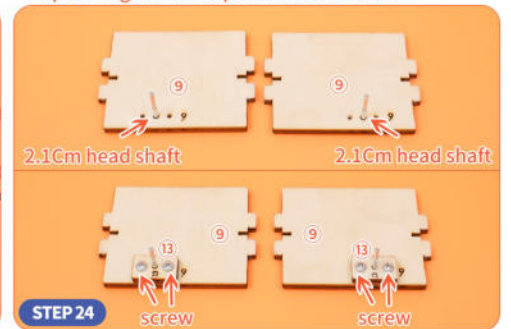
● Refer to [Circuit Wiring Diagram] Insert the battery box wire port into the [DC 6-12V] power interface on the expansion board, install the battery box cover and turn on the power supply. The power switch is on the side with the wire. **(This step is to power on the steering gear back to normal)**



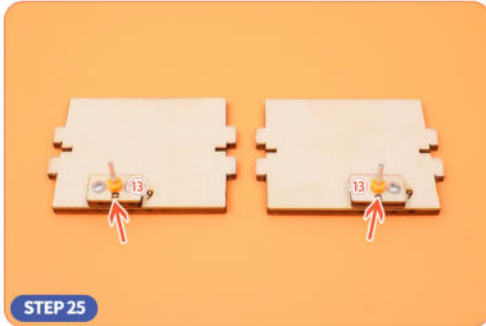
● Refer to the picture above, insert the program card into the card slot on the expansion board. **Pay attention to the insertion direction of the program card, the triangle logo of the program card points to the square logo of the expansion board slot.**



● Refer to the picture above, pull the switch in the OFF direction and turn off the power supply. **Note: Please install the steering gear disc when the power is off. There should be no mechanical resistance (such as screwing or breaking) when the steering gear is powered on. If the resistance is greater than the torque of the steering gear, it will burn out the steering gear.**



● Referring to the above picture, the two 2.1cm head shafts are pierced from the back of the two No. 9 plates, and then the two No. 1 plates are passed through the shaft first and then installed on the No. 9 plate, and fixed with 7mm rough-grain screws.



- Referring to the picture above, fix the 2.1cm head shaft on the S plate with the fixing ring.



- Referring to the picture above, install the shafted side of the two No. 3 plates outward and down on the back of the ③ plate, and fix them on the front of the ③ plate with 7mm rough-grained screws. (Pay attention to the installation orientation)



- Referring to the picture above, install the No. 8 plate on the No. 3 plate, and fix it on the front of the No. 3 plate with 7mm coarse-grained screws.



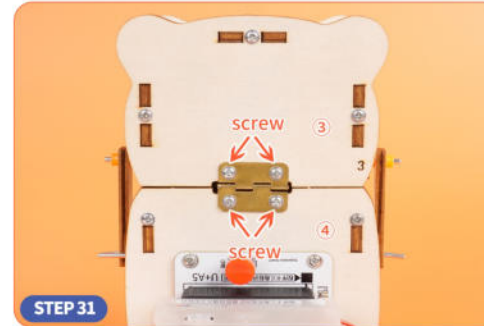
- Referring to the picture above, install the ① plate digitally facing outward on the other end of the two < unk > plates and < unk > plates, and fix it with 7mm rough screws.



- Referring to the picture above, pass the two 1.3cm head shafts through the back of the two No.



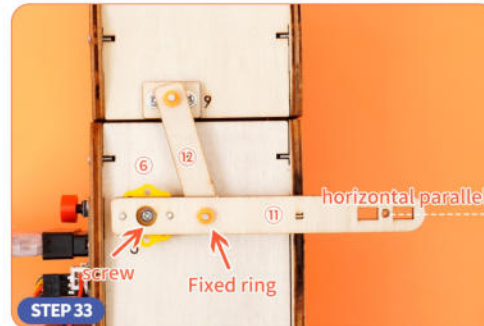
- Referring to the picture above, snap the other end of the No. 1 plate without a shaft into the shaft of the No. 1 plate, and fix it with a fixing ring. (Pay attention to the installation orientation and do not remove the shaft)



- Referring to the picture above, place the bear head assembled by STEP 30 on the bear base assembled by STEP 19, and then install the shaft-facing side of the hinge on the ③ and ④ plates respectively, and fix it with 4mm coarse screws.



- Refer to the picture above, install the protruding part of the steering gear disc up on the side where there is no number on the plate, and fix it with 7mm rough-grain screws.



- Referring to the picture above, install the steering gear disc of the No. 1 plate inward on the steering gear of the No. 6 plate, fix it with 7mm rough-grain screws, and then pass the 1.3cm head shaft of the No. 1 plate through the No. 1 plate and fix it with a fixing ring.



- Refer to the picture above, install the #plate on the #plate and fix it with 7mm rough screws.



- Refer to the picture above, pass the shafts of the < unk > and < unk > plates through the < unk > plates and fix them with fixing rings, then install the < unk > plates on the < unk > plates and fix them with 7mm coarse grain screws.



- Turn on the power, the power switch is on the side with the wire.

**STEP 37**

- Function 1: Put down the prop round cake on the + board in front of the bear, and it will eat it into its stomach. Function 2: Press the red hat button of the expansion board to open the bear's mouth, and press again to close it.

**STEP 38**

- You can modify the code of the sample program yourself to change the execution result of the gluttonous bear, and you can also rewrite the program yourself to control the gluttonous bear. Overall, the Hello STEM kit will make your learning more enjoyable:)

After the assembly is completed, you also need to check whether it is installed correctly to avoid danger during debugging!



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

Refer to the process below to debug and experiment with the kit

Download and install the U + program card driver on the computer, and install the programming software.

Download the sample program to the U + program card using the data cable.

Insert the program card into the U + program card slot of the kit.

Turn on the power switch of the kit and the kit starts to work.

During debugging, you may encounter the following problems. Please refer to the following prompts to see if you can troubleshoot!

The gluttonous bear cannot work normally after installation.



1. Check whether the wiring is loose and wrong. For details, please refer to the circuit wiring diagram.
2. Check whether the battery has insufficient power, and it is recommended to replace it with a new battery.
3. Check whether the DuPont cable of the sensor and the expansion board is connected correctly, please refer to the circuit wiring diagram.
4. Check whether the U + program card downloads the program.
5. Check whether the U + program card is inserted upside down. If the indicator light of the program card is not on or dimmed, please pull it out immediately. Inserting it upside down will cause a short circuit. Please refer to the card insertion method of STEP 22 to insert the card.

