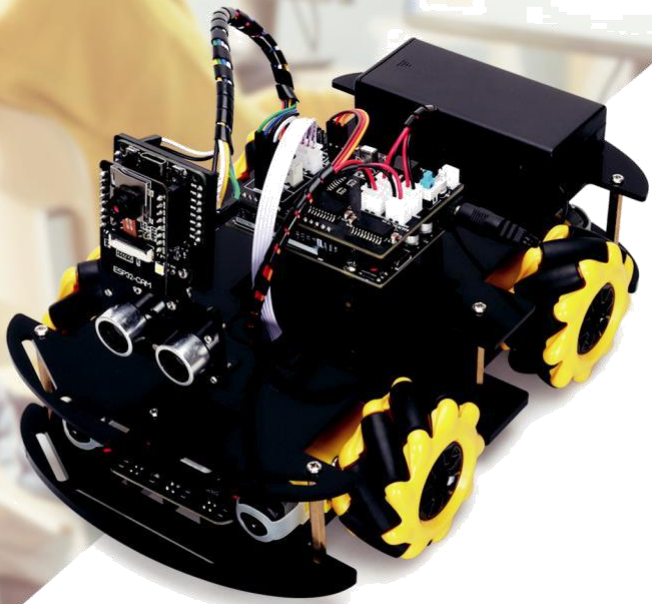
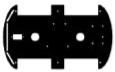
TSCINBUNY

SMART ROBOT PROGRAMMING LEARNING

Manual & Tutorial



Product list


top plate*1pc


bottom plate*1pc


Main control board*1pc


Expansion board*1pc


M3*30 round head screw*8pcs


M3*16 round head screw*2pcs


M3*10 flat head screw*4pcs


M2.5*20 round head screw*4pcs


M2*10 round head screw*6pcs


M1.6*8 round head screw*4pcs


M3*8 round head screw*28pcs


Motor with 2P terminal wire *4pcs


The McKnum Wheel (With coupling)*4pcs


type-c line*1pc

M3 Nut*22pcs

M2 Nut*6pcs

M1.6 Nut*4pcs


M3*40 Copper column*6pcs


M3*15 Copper column*4pcs


Motor frame*4pcs


ESP32 Cam Wifi bluetooth module development board, with OV2640 camera module*1pc


ESP32 CAM expansion board*1pc

Phillips screwdriver*1pc


Servo*1pc


Tracking module*1pc


ESP32-CAM bracket*1pc

Male to female Dupont line 4P 20CM*1pc


Red and white lines 5P double head reverse*1pc


4P with terminal Dupont wire*1pc


battery pack*1pc


Ultrasonic bracket*1pc


Ultrasonic module*1pc

Install the motor

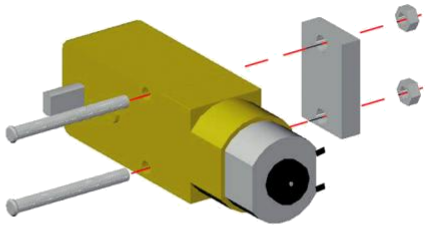
① M3 Nut*2pcs

② M3*30 round head screw*2pcs

③ Motor frame*1pc

④ Motor*1pc

⑤ Phillips screwdriver*1pc



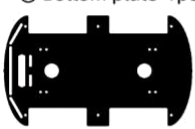
Put two long screws through the hole of the motor, and then put the bracket through the screw, finally lock the nut, and reinforce it with a screwdriver; Install all four motors in the same way.

Note: pay attention to the convex spot on the motor. The bracket is placed on the other side of the convex spot, namely on the side of the welding spot of the motor wiring (the black area is two welding spots). At the same time, it should be noted that there are two holes on the aluminum block of the bracket, Two of the motors are facing down,the other two are going up.

Fixed motor

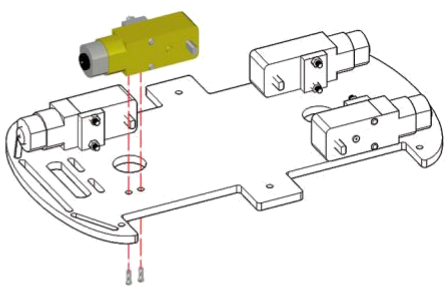
① M3*8 Round head screw*8pcs

② Bottom plate*1pc



(Remove the board from the set and remove its protective film)

③ Phillips screwdriver*1pc



Fix the motor on the bottom plate, align the hole of the aluminum block with the small rectangular hole on the board, then align the hole with the screws, and finally reinforce it with a small screwdriver.Install the four motors in the same way.

Note: Notice the line orientation of the motor at the corresponding position.

Install the tracking module

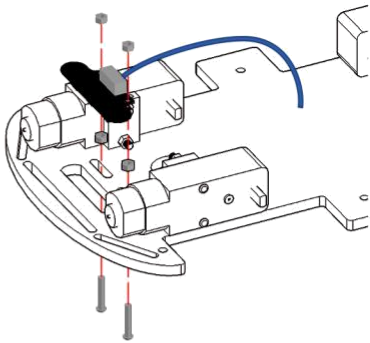
① M3 Nut*4pcs

② M3*16 round head screw*2pcs

③ Tracking module*1pc

④ Red and white lines
5P double head reverse*1pc

⑤ Phillips screwdriver*1pc



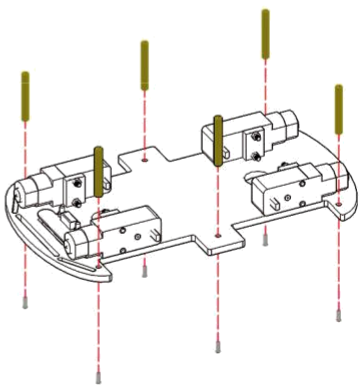
First pass the screw through the bottom hole, lock the nut, do not need the lock to fix, then screw the two holes of the tracking module, lock the remaining two nuts, and use the screwdriver for reinforcement. Finally, insert the dupont wire into the pin of the tracking module.

Install copper pillar on the bottom plate

① M3*40 Copper column*6pcs

② M3*8 Round head screw*6pcs

③ Phillips screwdriver*1pc



First pass the screw through the hole from the bottom, then hold the copper column to align the screw for preliminary fixation, and finally reinforce it with a screwdriver.

At this point, the installation of the bottom plate has been completed.

Install mainboard and expansion board

① M3*15 Copper column*4pcs

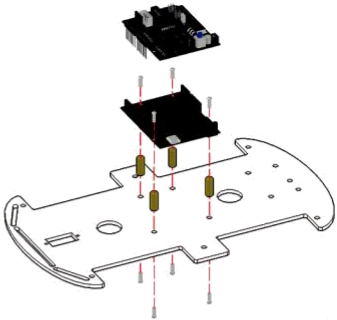
② M3*8 round head screw*8pcs

③ Main control board*1pc

④ Expansion board*1pc

⑤ Top plate*1pc

⑥ Phillips screwdriver*1pc



First, fix the copper column in the corresponding position of the bottom plate. Then place the mainboard on the copper column, align the holes, screw the screws, and reinforce the holes with a screwdriver. Finally, insert the expansion board into the mainboard.This time you can burn the infrared code.

Note: Note the orientation of the main board and expansion board. Also be careful not to insert the expansion board incorrectly.

Installing the Battery pack

① M3*10 flat head screw*4pcs

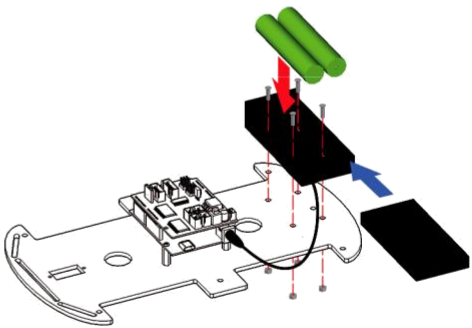
② M3 Nut*4pcs

③ Battery pack*1pc

④ 18650 3.7V Battery*2pcs

⑤ Battery cover*1pc

⑥ Phillips screwdriver*1pc



When you get the battery pack, open the cover first, align the hole in the battery pack with the hole in the board, and then pass the screw from the top down. Finally, align the screw with the nut with one hand, and reinforce it with a screwdriver with the other hand. Put the battery into the battery case first, and then put the battery cover on.Plug the battery box's port cable into the mainboard.

(Batteries should be provided separately)

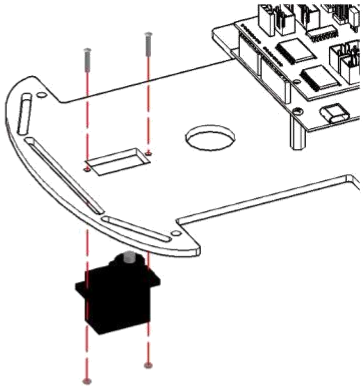
Install Servo

① Servo*1pc

② M2*10 round head screw*2pcs

③ M2 Nut*2pcs

④ Phillips screwdriver*1pc



Put the servo into the corresponding hole from bottom to top, then pass the screw from top to bottom, lock the nut, and finally reinforce it with a screwdriver.

Note: Note the orientation of the servo.

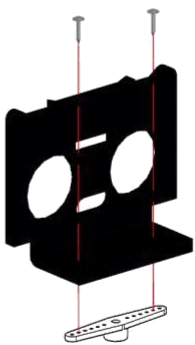
Install servo head

① Servo head

② Ultrasonic bracket*1pc

③ Servo matching small screw *2pcs

④ Phillips screwdriver*1pc



Align the hole of the servo head with the hole of the ultrasonic support, and then screw the tip screw with a screwdriver to fix it.

Note: The screws used in this step are small, so pay attention to safety. You need to use some strength when screwing with a screwdriver.

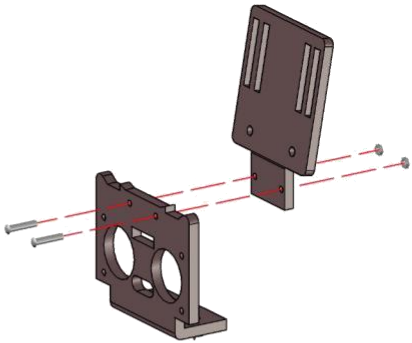
Splice ultrasonic bracket and ESP32 CAM bracket

① ESP32-CAM bracket*1pc

② M2*10 round head screw*2pcs

③ M2 Nut*2pcs

④ Phillips screwdriver*1pc



Align the holes of the two brackets, push the screws through them, lock the nuts, and reinforce them with a screwdriver.

Note: Pay attention to the orientation of the bracket, do not install it backwards.

Installing the ultrasonic Module

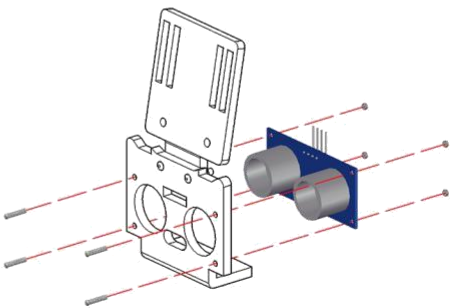
① Ultrasonic module*1pc

② M1.6*8 round head screw*4pcs

③ M1.6 Nut*4pcs

④ Phillips screwdriver*1pc

⑤ 4P with terminal Dupont wire*1pc



Put the ultrasonic module into the ultrasonic bracket, and then the screw through, lock the nut, with a screwdriver for reinforcement; Finally, insert the black terminal of the Dupont wire into the ultrasonic pin.

Note: Note that the black wire is connected to the GND pin of the ultrasonic module.

Install ESP32 CAM expansion board and mainboard

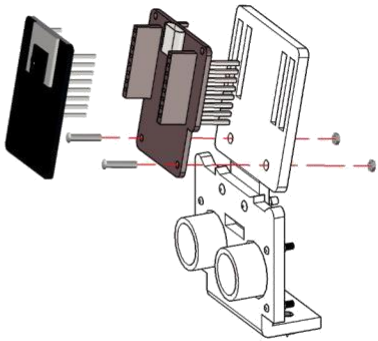
① ESP32 Cam Wifi bluetooth module development board, with OV2640 camera module*1pc

② ESP32 CAM expansion board*1pc

③ M2*10 round head screw*2pcs

④ M2 Nut*2pcs

⑤ Phillips screwdriver*1pc

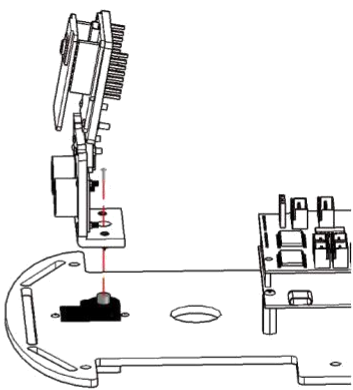


First, insert the expansion plate into the corresponding position of the support, align the holes, push the screws through, lock the nuts, and reinforce them with a screwdriver. Finally, insert the board with the camera into the expansion plate.

Note: Be careful not to install the board upside down.

Fixed car head

① Servo with small screws*1pc

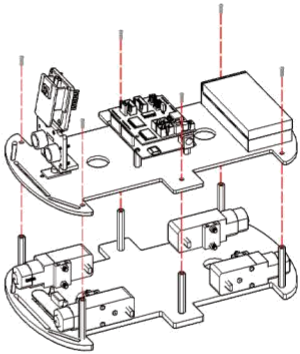


Insert the assembled car head into the servo, then screw in and reinforce with a screwdriver.

Fix top plate and bottom plate

① M3*8 Round head screw*6pcs

② Phillips screwdriver*1pc

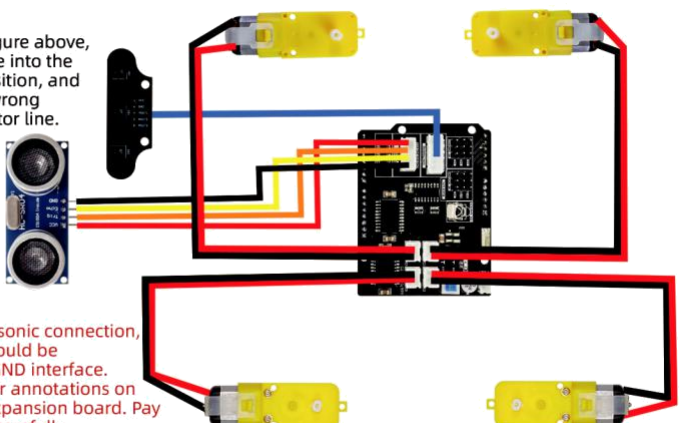


Lay the bottom plate flat, align the holes of the top plate with the holes of the copper column, and lock them accordingly. Finally, use a screwdriver for reinforcement.

Note: Before fixing the upper and lower plates, thread the wires through the two round holes in the top plate to facilitate subsequent wiring.

Connect the line

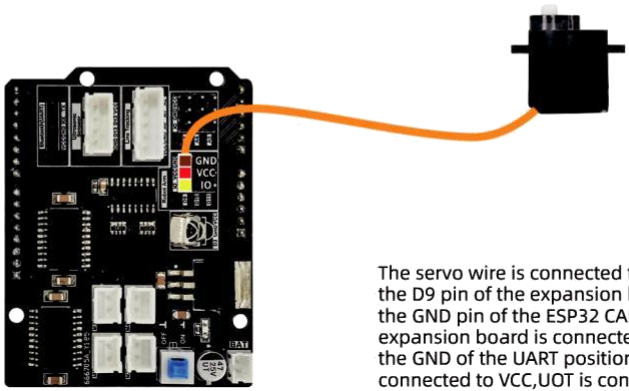
As shown in the figure above, insert each module into the corresponding position, and do not check the wrong position of the motor line.



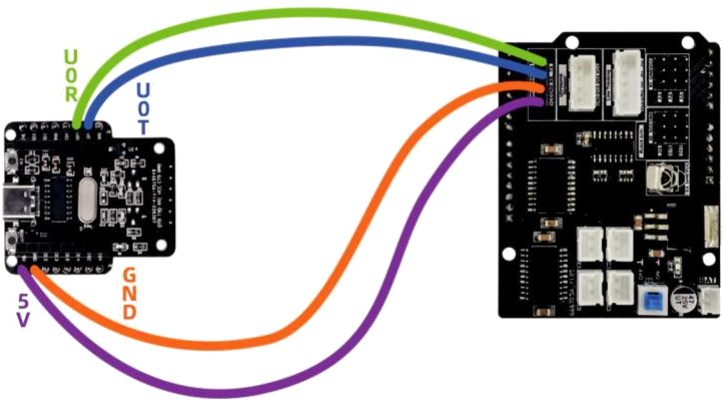
Note: For the ultrasonic connection, the black cable should be connected to the GND interface. There are character annotations on the module and expansion board. Pay attention to them carefully.

Connect the line

① Male to female Dupont line 4P 20CM*1pc

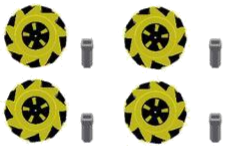


The servo wire is connected to the D9 pin of the expansion board, the GND pin of the ESP32 CAM expansion board is connected to the GND of the UART position,5V is connected to VCC,UOT is connected to RX, and UOR is connected to TX.



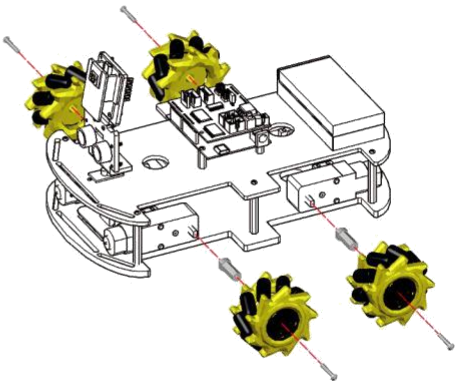
Install the wheel

① The McKnum Wheel
(With coupling)*4pcs



② M2.5*20 round head screw*4pcs

③ Phillips screwdriver*1pc

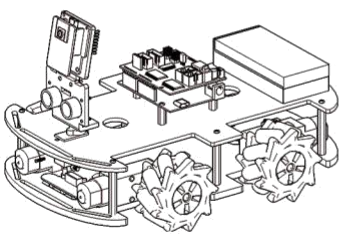


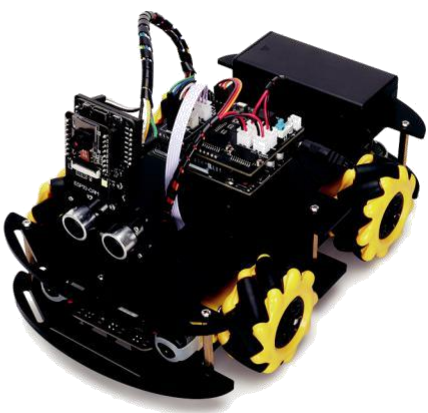
First install the coupling to the corresponding position of the motor, and then align the wheel with it, install it, lock the screw, and finally reinforce with a screwdriver.

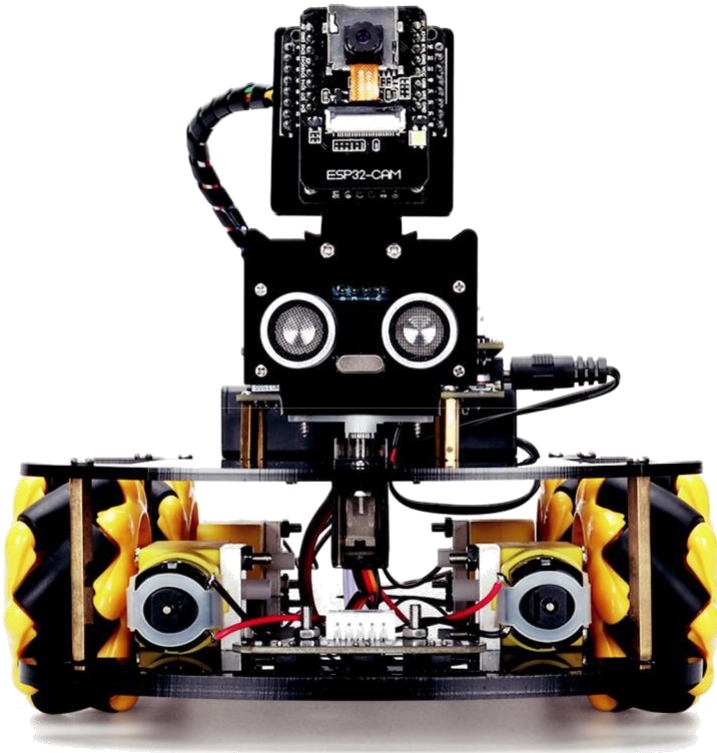
Note: Do not insert the Bluetooth module backwards.

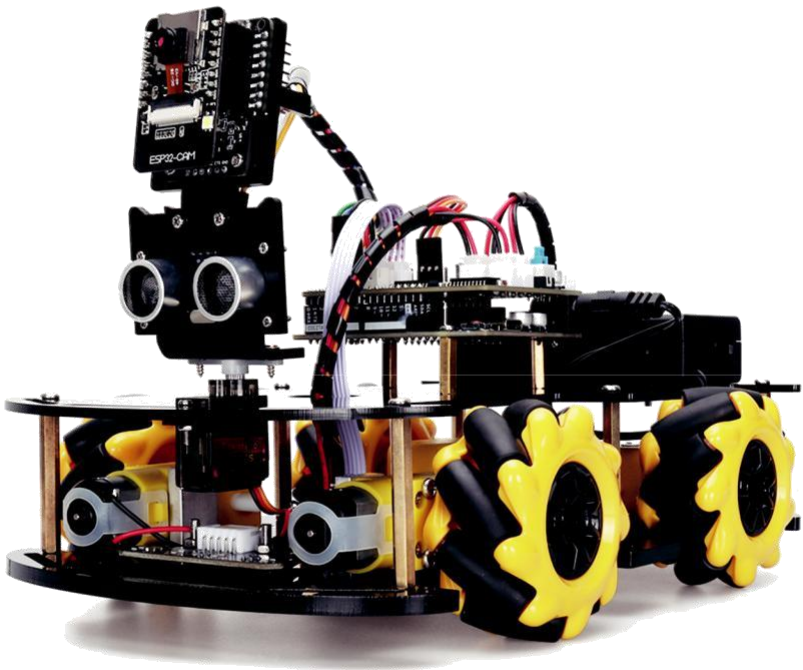
The installation is complete

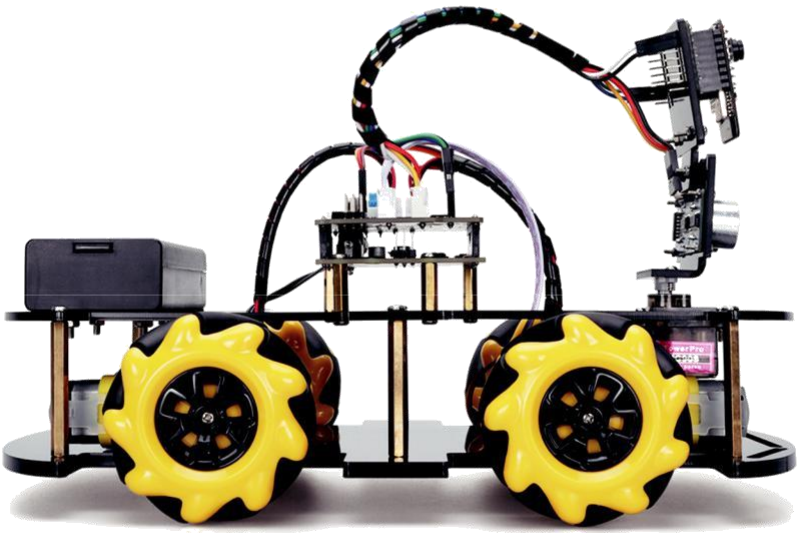
Here, congratulations you have completed the whole assembly of the car, then you can combine the code to explore the fun of the smart car, enjoy the joy of programming and toy combination.






ESP32-CAM


ESP32-CAM



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