Introduction of 4WD Mecanum Wheel Car Chassis

Table

Support : Cokoino@outlook.com

1. Preface

Thank you for purchasing and using this 4WD Mecanum wheel Car Chassis kit from COKOINO. Our aim is to provide you with a 4WD mecanum wheel car chassis frame with cool appearance, strong expandability and diverse gameplay.

The use of Mecanum wheels is different from traditional wheels, and Mecanum wheels have the characteristics of flexibility, precision, and efficiency, making them a controllable universal wheel. The operation mode of this type of car is different from traditional cars, as it has a special lateral motion mode. Each wheel can be individually controlled, making the motion of the car diverse and freely defined.

The multifunctional acrylic car body plate can support the assembly of different types of control boards, such as Arduino UNO board and Raspberry Pi 4B, so you can choose the control board you favorite to assemble on this 4WD car, and the acrylic support plate also reserves a place for you to assemble the servo, you can assemble the servo and DIY the head of the car body, such as the ultrasonic module and bracket can be extended to the servo to make the car body more functional and interesting. The front and rear of the car body are equipped with a multi-functional extended acrylic. You can use the above slots and holes to DIY various sensor modules, making the experiment more rich and interesting.

2. 4WD Mecanum Wheel Car Chassis Structure

2.1 Assemble and install

Please refer to the documentation: 4WD Mecanum Wheel Car Chassis Kit Tutorial\3 How to Assemble the 4WD Mecanum Wheel Car Chassis

2.2 Structural composition

This 4WD Mecanum Wheel Car Chassis is mainly composed of the following parts：TT Motor, Mecanum wheels, acrylic Chassis frame, acrylic support plate, acrylic expansion plate, 18650 battery box

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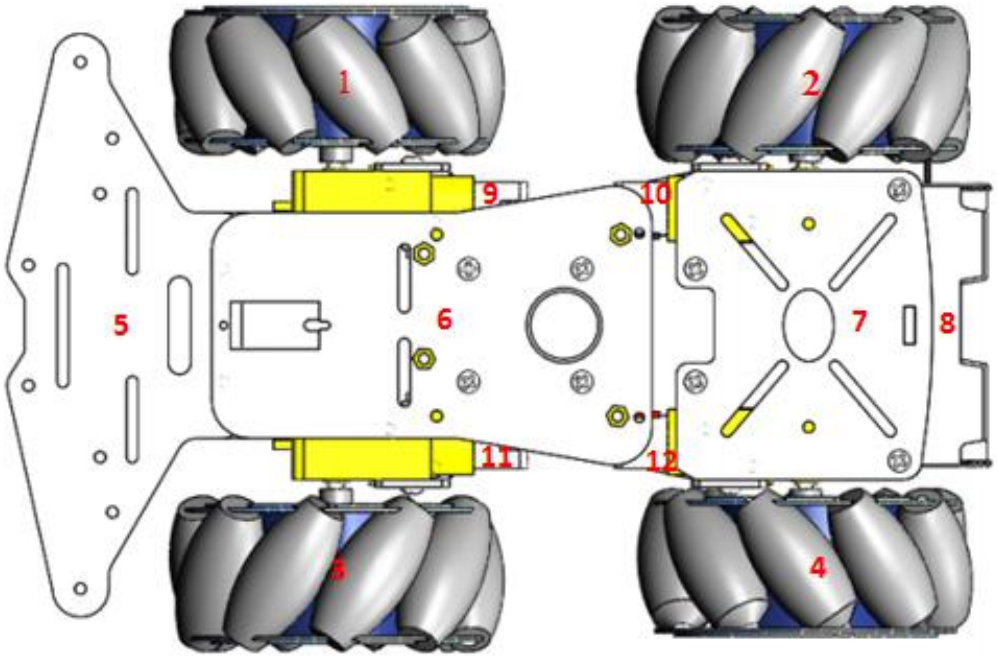
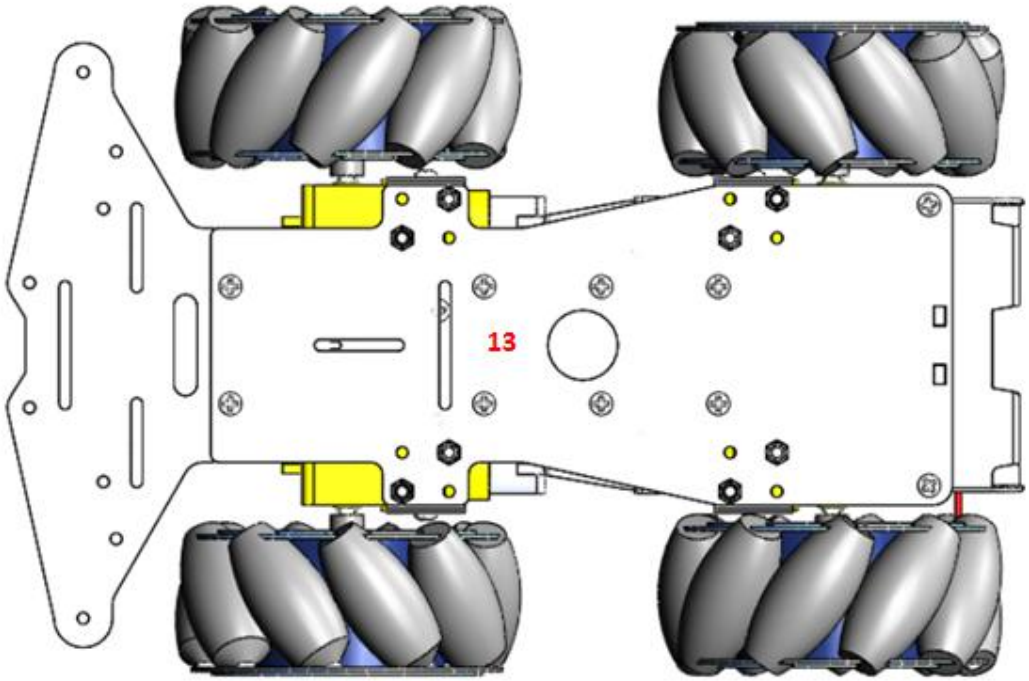
Top view:



Bottom view;



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Part No.	Module
1,2,3,4	wheel
5	acrylic expansion plate
6	acrylic support plate
7	acrylic expansion plate
8	18650 battery box
9,10,11,12	TT Motor
13	acrylic chassis frame

Details of the modules listed above

[1,2,3,4]: Mecanum Wheel. 4pcs

[5]: Acrylic expansion plate - Acrylic expansion board at the front of the car body, you can expand some sensor modules and actuators through the holes above

[6]: Acrylic car body plate. The support platform for the control board, you can fix your control board with copper pillars and screws.

[7]: Acrylic expansion plate - Acrylic expansion board at the rear of the frame, which can fix the sensor module, 1602LCD screen, etc. through the holes above

[8]: 18650 battery box - You can mount two 18650 batteries on it to power the robot.

[9,10,11,12]: TT Motor. 4PCS TT Motor - controlled by the control board to drive 4 wheels

[13]: acrylic chassis frame - An important part of a 4WD car, it is the carrier board for all other modules

3. Control Board

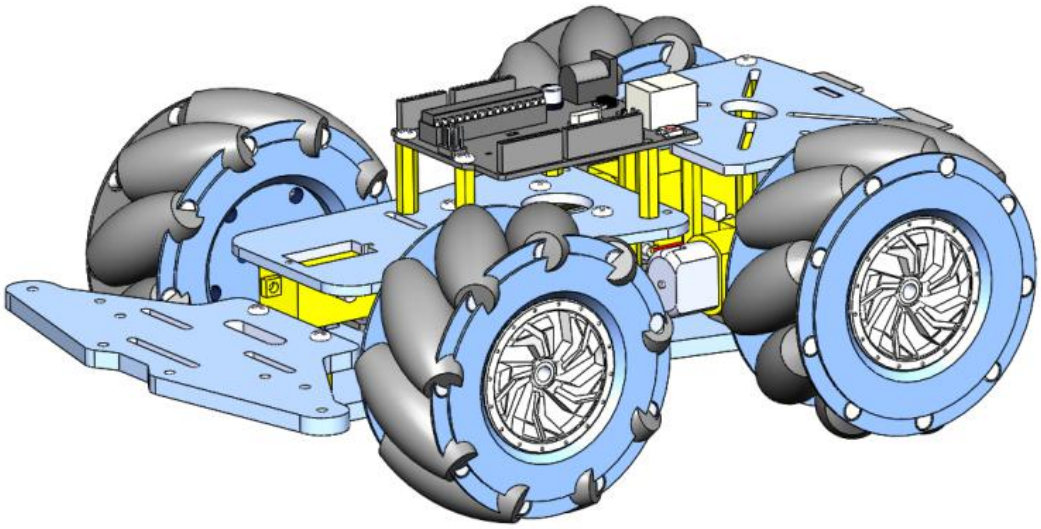
The multifunctional acrylic car body plate can support the assembly of different types of control boards.

Support Arduino:UNO R3/UNO R4/Leonardo

Support Raspberry Pi: Raspberry Pi 5/4B/3B+/3B/ 2B/ 1B+

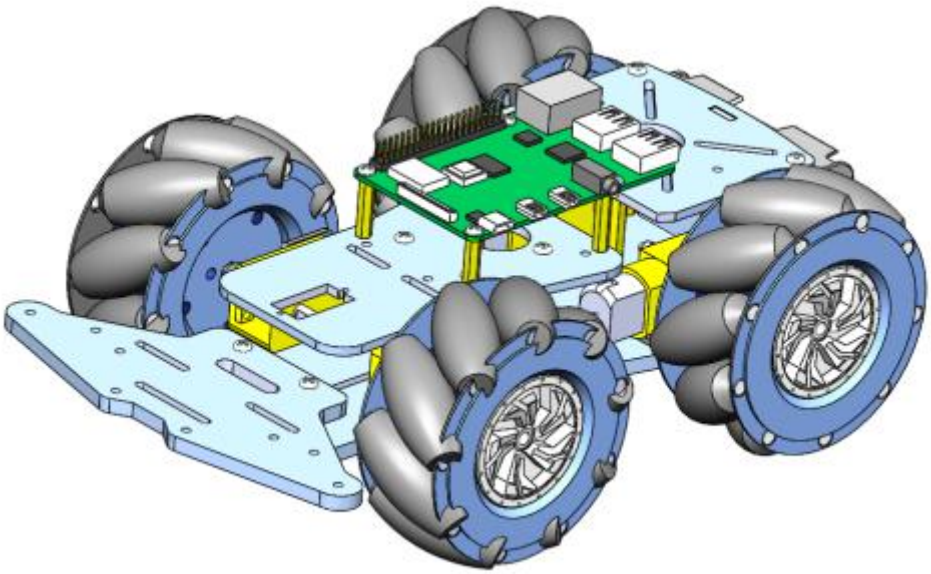
Demo1: Arduino UNO R3 board

Select the Arduino UNO R3 board and install it on the acrylic support plate of the car body, as follows



Demo2:Raspberry Pi 4B board

Select the Raspberry Pi 4B board and install it on the acrylic support plate of the car body, as follows



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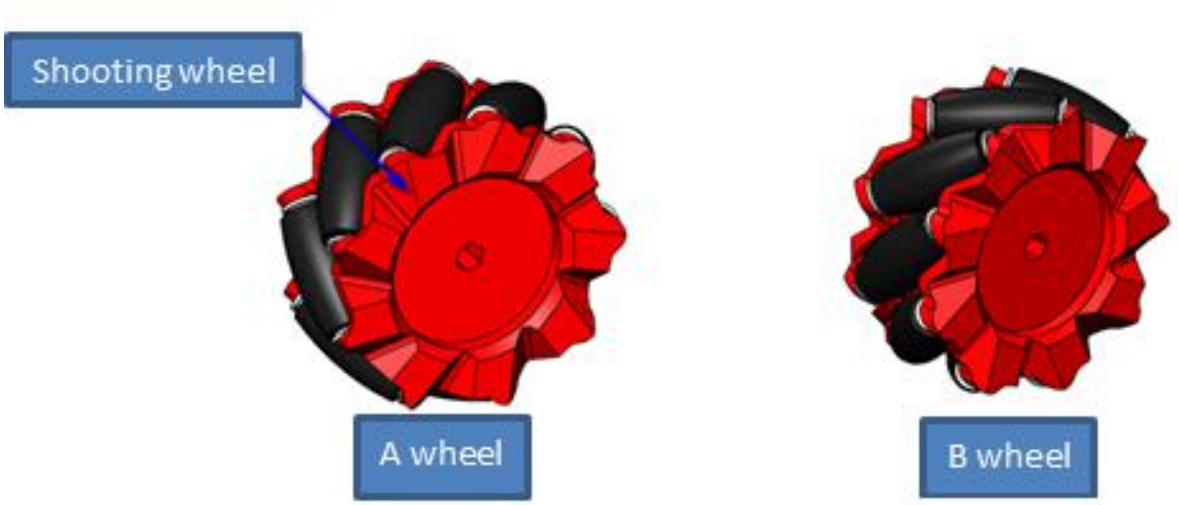
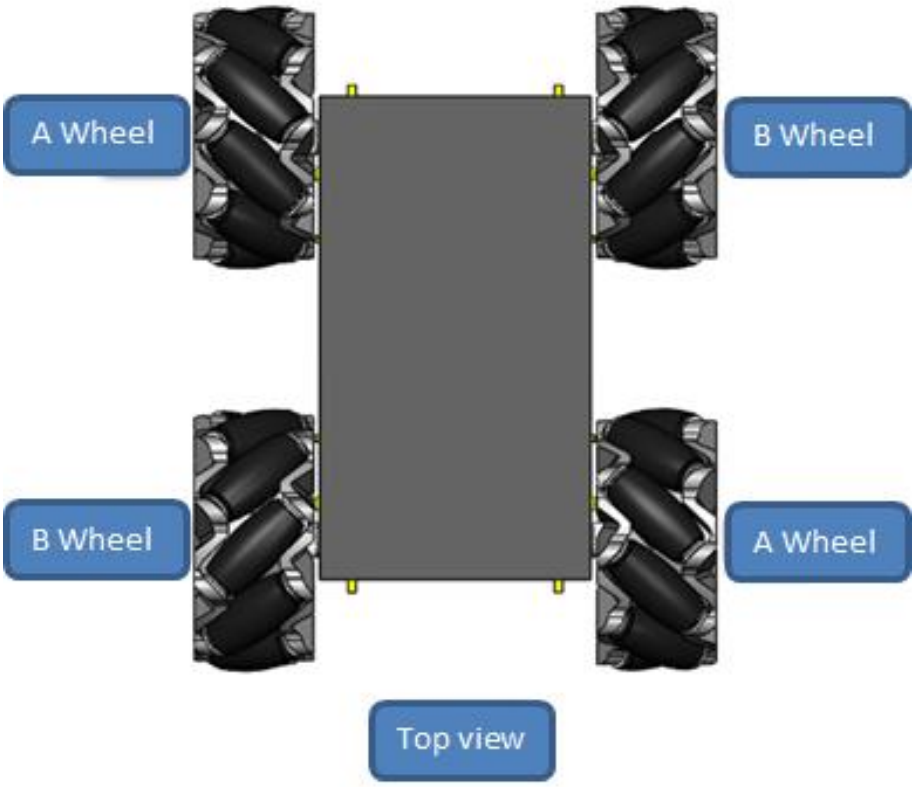
4. Distribution of Mecanum wheels

We define the wheel with the "L"character as the A wheel and the "R"character as the B wheel. Wheel A (left) and wheel B (right) are mirror images of each other.



A/B Wheel is assembled diagonally



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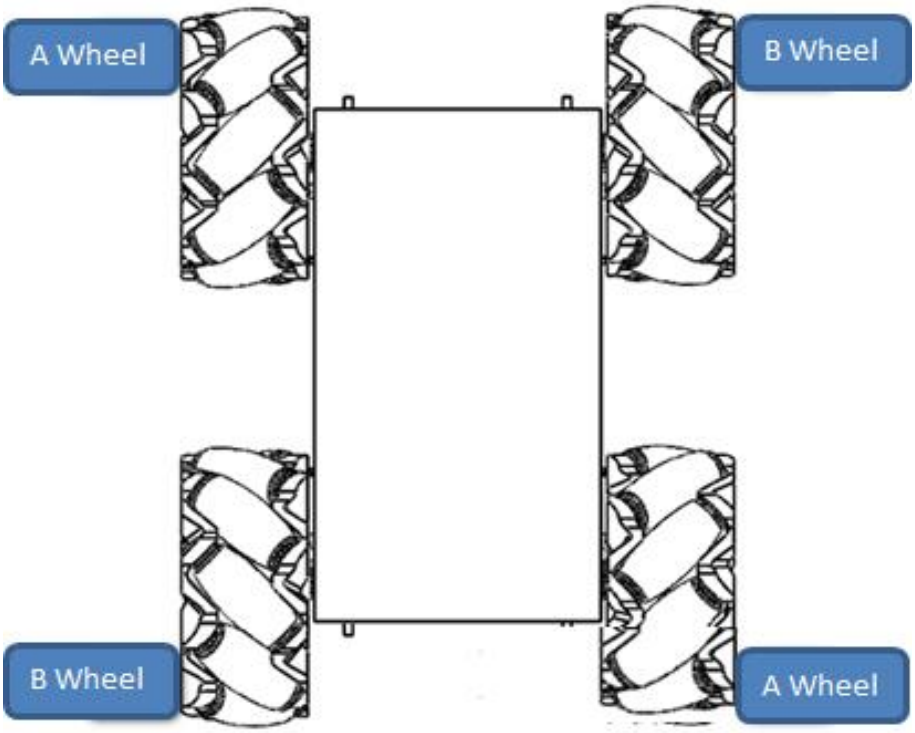
Ground projection：



5. Safety and Notes

5.1 Please refer to the document 4WD Mecanum Wheel Car Chassis Kit Tutorial\3 How to Assemble the 4WD Mecanum Wheel Car Chassis. Pay attention to the specifications of the screws to prevent using them in the wrong place.

5.2 Before powering on, please make sure that all connected circuits are not short-circuited, especially 3.3V and GND,5Vand GND.

A short circuit can cause high current in your circuit, create excessive component heat and cause permanent damage to your hardware!

5.3 This kit is designed to provide a set of car bodies that can be defined by yourself and can be played in multiple ways. The development boards, sensor modules, brackets, etc. needed for DIY need to be prepared by you.

6. Make your suggestion and get support

THANK YOU for reading this introduction of the Mecanum 4WD car chassis !

If you find errors,omissions or you have suggestions and/or questions about this document, please feel free to contact us: **cokoino@outlook.com**

We will make every effort to make changes and correct errors as soon as feasibly possible and publish a revised version.

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