

7. Control the forward and reverse rotation of the motor

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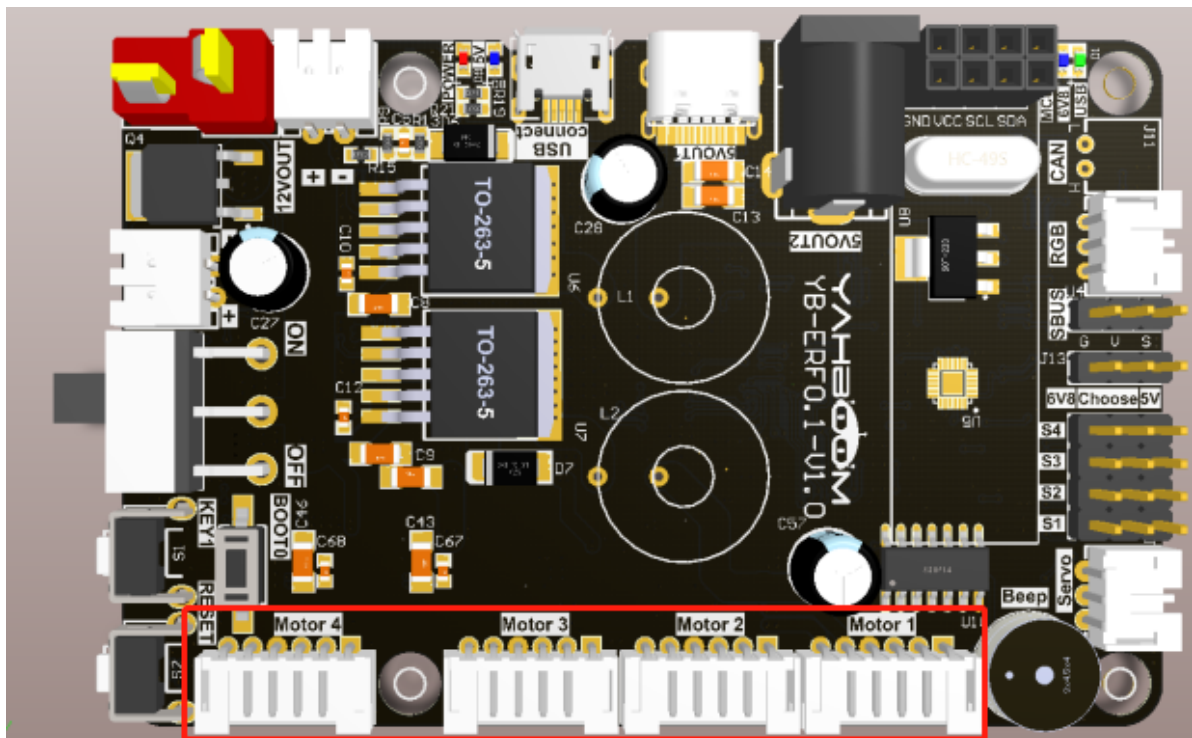
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7.1. Experimental goal

Control the forward and reverse rotation of the motor on the Rosmaster, and control the speed of the motor by controlling the PWM duty cycle of the motor.

7.2. Experiment preparation

The red squares in the picture below are the motor MOTOR 1, MOTOR 2, MOTOR 3, and MOTOR 4. The motor interface has an anti-reverse connection function, which can be connected to the motor using Rosmaster's motor cable. Here you need to pay attention to connecting the motors according to different models. Here is an example of a Mecanum wheel car. MOTOR 1 is connected to the left front motor of the car, MOTOR 2 is connected to the left rear motor of the car, and MOTOR 3 is connected to the right front motor of the car. MOTOR 4 is connected to the right rear motor of the dolly.



Rosmaster_Lib library functions required to control the Rosmaster motor:

```
set_motor ( speed_1 , speed_2 , speed_3 , speed_4 )
```

Parameter explanation: Control the motor PWM pulse, thereby controlling the motor speed. This function does not use the encoder speed function.

speed_X=[-100, 100], a positive number means forward rotation, and a negative number means backward rotation.

Return value: None.

7.3. Experimental effect

Check out the course accompanying video.

Since this function controls the rotation of the motor by modifying the PWM duty cycle, it can only be used to test whether the motor is working normally, and this function is rarely used in actual use.

7.4. Program source code

Power on the Rosmaster robot, and open the browser of the Jetson Nano or remote computer to enter the Jupyter lab editor.

Reference code path: Rosmaster/Samples/7.motor.ipynb