

Serial communication

1.1 Explanation

Please read 《0. Motor introduction and usage》 first to understand the motor parameters, wiring method, and power supply voltage you are currently using. To avoid improper operation and damage to the driver board or motor.

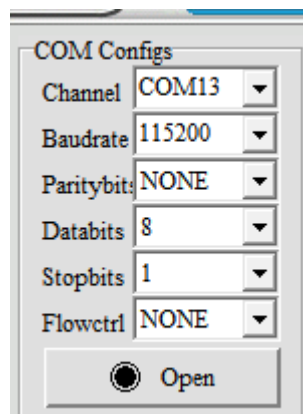
Connect the driver board to the computer through the TYPE-C port on the driver board, and use the serial port assistant to send commands to the driver board for control and data reading.

Hardware wiring:

Motor	4-channel motor drive board(Motor)
M2	M-
V	3V3
A	H1A
B	H1B
G	GND
M1	M+

1.2 Instructions

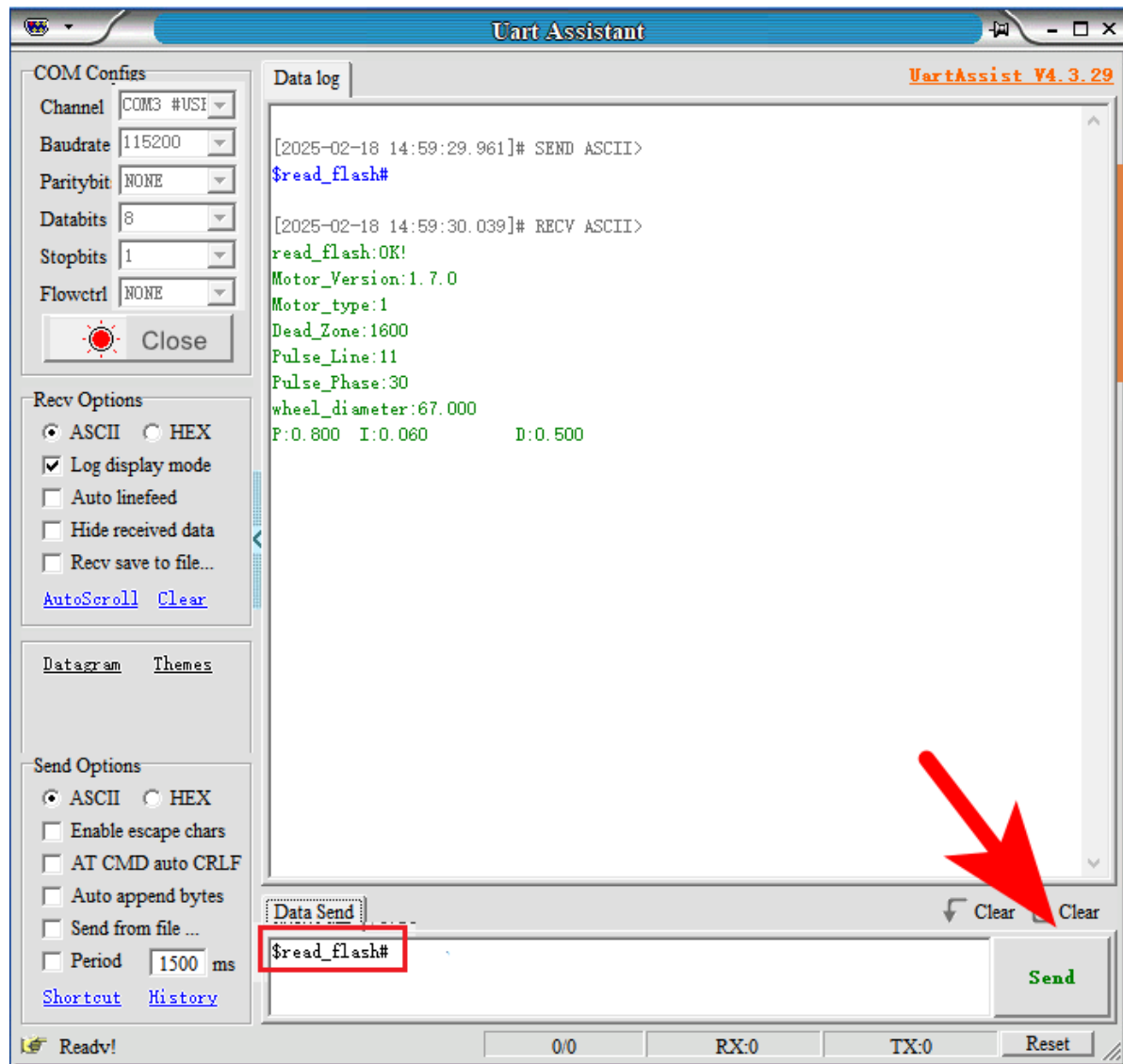
Open the serial port assistant software on the computer. Here we take Uart Assistant as an example.



Serial port configuration: **Baud rate 115200, no parity check, no hardware flow control, 1 stop bit**

After configuration, you can send commands in the send window below to control the driver board. All serial port commands and explanations are listed in the course 《1.2 Control command》.

Next, we will demonstrate how to modify the default parameters to use **310 motor, 48mm diameter tire**.



First, issue the command `$read_flash#`, which is to query the power-off saving parameters in the flash. It can save tire type, motor dead zone, motor phase line, motor reduction ratio, wheel diameter, and motor PID parameters.

Then, according to the parameters of the motor and tire, enter the send parameter configuration command in the send column below.

```

[2025-01-21 15:28:20.737]# SEND ASCII>
$mttype:2#

[2025-01-21 15:28:20.794]# RECV ASCII>
Set mttype:OK!

[2025-01-21 15:28:22.210]# SEND ASCII>
$deadzone:1250#

[2025-01-21 15:28:22.263]# RECV ASCII>
Set deadzone:OK!

[2025-01-21 15:28:34.058]# SEND ASCII>
$mline:13#

[2025-01-21 15:28:34.189]# RECV ASCII>
Set mline:OK!

[2025-01-21 15:28:42.225]# SEND ASCII>
$mphase:20#

Set mphase:OK!

[2025-01-21 15:28:50.905]# SEND ASCII>
$wdiameter:48#

[2025-01-21 15:28:51.044]# RECV ASCII>
Set wdiameter:OK!

[2025-01-21 15:29:02.833]# SEND ASCII>
$read_flash#

[2025-01-21 15:29:02.893]# RECV ASCII>
read_flash:OK!
Motor_Version:1.5.5
Motor_type:2
Dead_Zone:1250
Pulse_Line:13
Pulse_Phase:20
wheel_diameter:48.000
P:0.800 I:0.060 D:0.500

```

We can see that after each configuration command is issued, the driver board will send back an 'OK!' message, indicating that the setting is successful. Finally, use the command to view the flash to see that the parameters just modified have taken effect. The modification method of PID parameters is the same as these, but it generally does not need to be modified, so it will not be demonstrated here.

If you want to control the movement of the motor, send the command `$spd:0,0,0,0#` or `$pwm:0,0,0,0#`. The spd command controls the motor with an encoder, and the pwm command can control the motor with or without an encoder. Suppose I want to control the 310 motor plugged into Motor1 on the driver board, which has an encoder, then send `$spd:100,0,0,0#` to control it. To control the motor connected to Motor2, modify the second value:
`$spd:0,100,0,0#`.

