HOW TO DRIVE CUBEMARS MOTORS

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Contents

1 R-LINK part

Actually, for this part, there are a few guide (www.cubemars.com/article.php?id=261) by CubeMars. Checking this page is enough to learn using R-LINK.

There are 3 steps you have to complete. The first step is "Connecting Motor to Computer", after you will learn "MIT and Servo modes", and the final step is "calibration part". Before begin to start coding, you should look at each step.

2 Pin Configuration

There are 3 different device for our system: Arduino UNO, CAN Bus module(MCP2515 is used) and our motor (AK60-6 V140).

Between motor and CAN bus module, we must connect high and low CAN pin, that is not just enough to use CAN module. Also we need to connect terminal resistor to MCP2515

Between Ardiuno and CAN module, the pin configuration is like above. That's all we need

MPC2515 - VCC	+5V
MPC2515 - GND	GND
MPC2515 - CS	D10 (SPI_SS)
MPC2515 - SO	D12 (SPI_MISO)
MPC2515 - S I	D11 (SPI_MOSI)
MPC2515 - SCK	D13 (SPI_SCK)
MPC2515 - INT	D2

Figure 1: Pinouts

3 Arduino Codes

There are a lot of code examples in the Internet, you can check videos and github codes about CubeMars. In this project, I used Arduino Uno so my code's language is Cpp. However, fundamental idea behind of coding is the same for every language.

The library which we need to run our codes is in this page:
https://drive.google.com/drive/folders/1Q8XfQIFF3Uk-f9GKNT2jj9XII8HbEndR

You can directly look at my gitHub project and use it :
https://github.com/Yangwen-li13/CubeMars-AK60-6 ,
it includes all information which you need while driving this motor.

One important thing is, when you decide MIT or Servo mode, you must change mode ,firstly, via R-Link, otherwise drive card can be burned. Another important thing is, the first time you use Servo mode, you should calibrate on application function via R-link, if you don't, can bus cannot work.