

1.Parameters of servo motor

Stroke: 500mm

Speed: 3000 laps/min

Load: 700N

Lap: 50; When the motor runs for 1 laps, the electric actuator will extend by 10mm

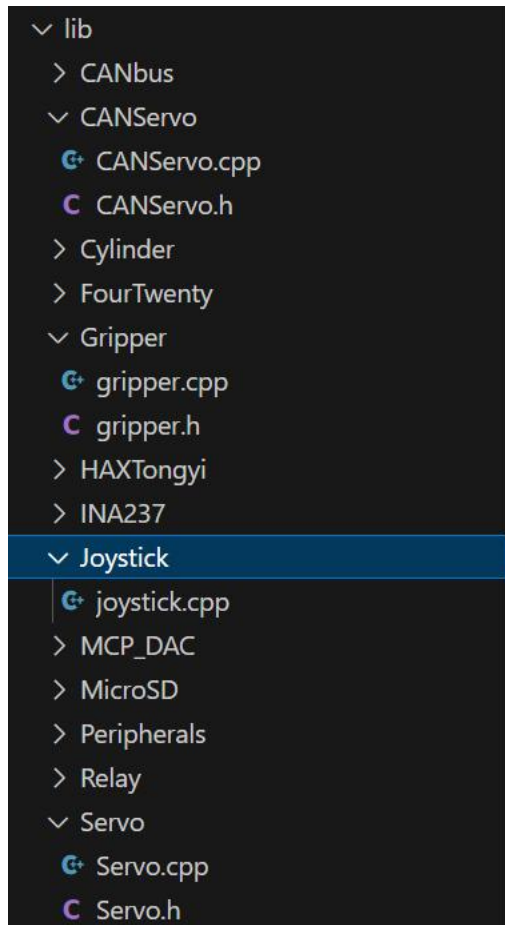
Communication frequency: 250k ; Because the communication frequency of the joystick is 250k, and the joystick and the motor use the same bus, the frequencies of the two must be kept consistent.

In order to change the communication frequency, prepare a RS485 to USB module in advance.



actuator

2.Description of lib



CANServo.h: It was written by Han Long, but I didn't use it.

Gripper.h: I wrote the code from line 89 to the end. `class Gripper` is used for the old machine.

HAXTongyi: It is an example provided by the manufacturer.

Servo: function of controlling servo motor

Joystick.cpp: `controlCylinders()` is used for testing

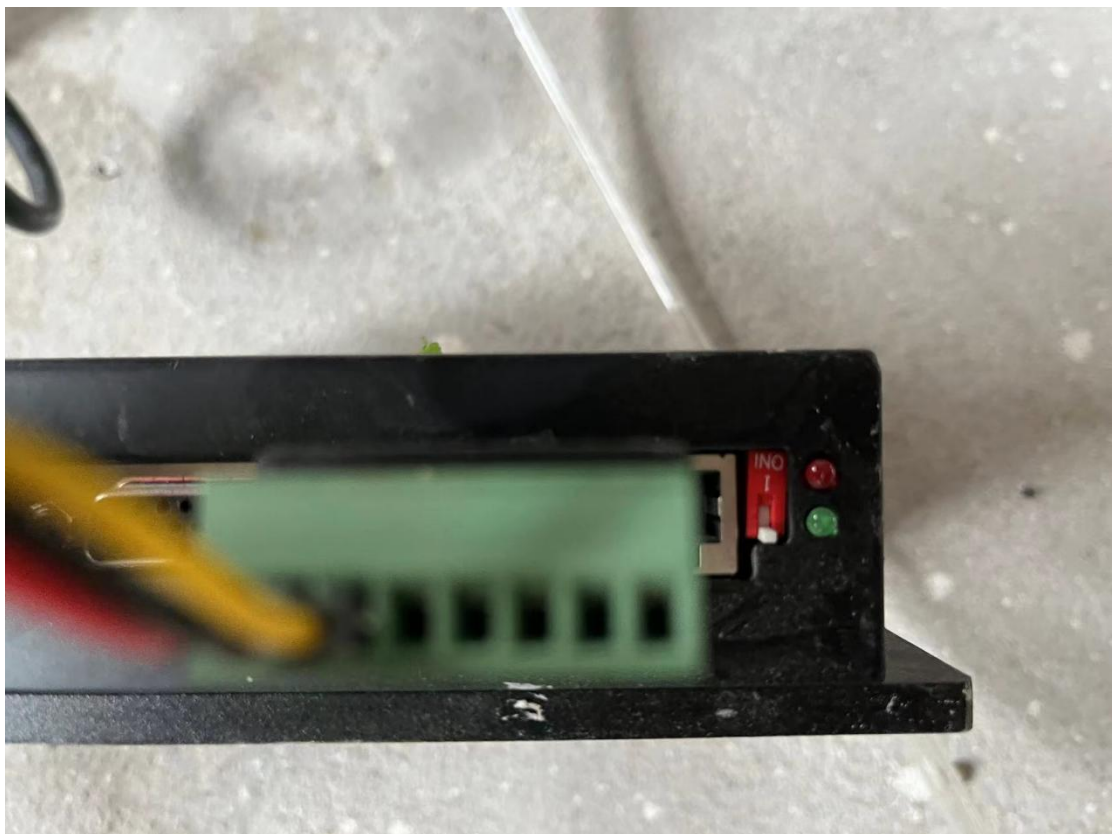
3.Process of controlling the motor

Step1: Turn on the motor power and then turn on the EE box power.

Note: The controller of the motor can only receive the NMT command from the PCB after it is started, and can only start CAN communication after successfully receiving the command.

Step2: Wait

Note: use the current code, after about twenty seconds, the motor will be enabled, and after another ten seconds, you can control the motor using the joystick.



The red LED is an alarm light. When it flashes, it indicates that the motor or controller is running in error. The current solution is to power off and restart.

The green LED is the controller operation indicator. When it is always on, it indicates that the motor is already in the enabled state.

Step3: control

6.8.6 Default PDO Mapping Parameter in Location Mode

The default configuration PDO mapping parameter of the driver is shown in the following table:

CANopen_Protocol_Software_V4_32												
1. CANopen 远程设备 2. PDO 映射 3. 服务数据对象 4. CANopen 配置 5. CANopen I/O 映射 6. 状态 7. 信息												
8. 选择接收 PDO (RPDO)												
10	名称	11 索引	12 子索引	13 位长度								
	<input checked="" type="checkbox"/> 1. receive PDO parameter	16#1400										
	Controlword	16#6040	16#00	16								
	<input checked="" type="checkbox"/> 2. receive PDO parameter	16#1401										
	Modes_of_operation	16#6060	16#00	8								
	<input checked="" type="checkbox"/> 3. receive PDO parameter	16#1402										
	Target_velocity	16#60FF	16#00	32								
	Target_torque	16#6071	16#00	16								
	<input checked="" type="checkbox"/> 4. receive PDO parameter	16#1403										
	Target_Position	16#607A	16#00	32								
	Profile_velocity	16#6081	16#00	32								
9. 选择发送 PDO (TPDO)												
10	名称	11 索引	12 子索引	13 位长度								
	<input checked="" type="checkbox"/> 1. transmit PDO parameter	16#1800										
	Statusword	16#6041	16#00	16								
	<input checked="" type="checkbox"/> 2. transmit PDO parameter	16#1801										
	Error_code	16#603F	16#00	16								
	<input checked="" type="checkbox"/> 3. transmit PDO parameter	16#1802										
	Velocity_actual_value	16#606C	16#00	32								
	Current_actual_value	16#6078	16#00	16								
	<input checked="" type="checkbox"/> 4. transmit PDO parameter	16#1803										
	Position_control_Cylinder_Num	16#60FB	16#02	32								
	Position_actual_value	16#6064	16#00	32								

Use PDO; position Mode

Step4: After operating the actuator to 0 position(Stroke: 500mm), turn off the power

Note: The motor currently used is a relative value motor.