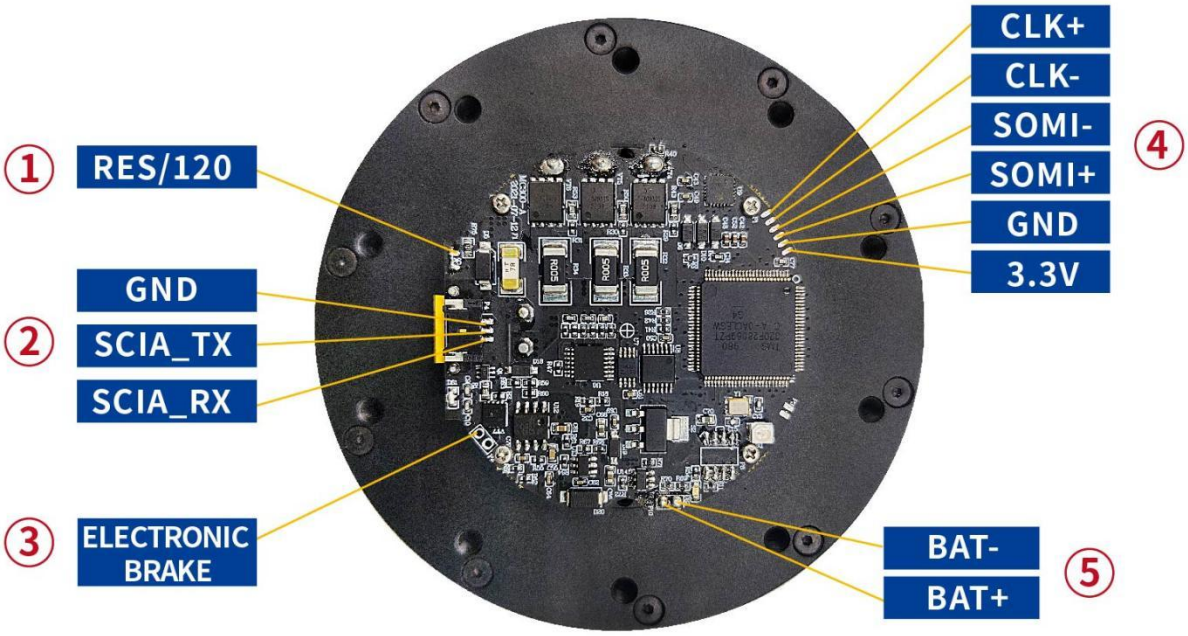
MC Series Servo Motor Driver Manual

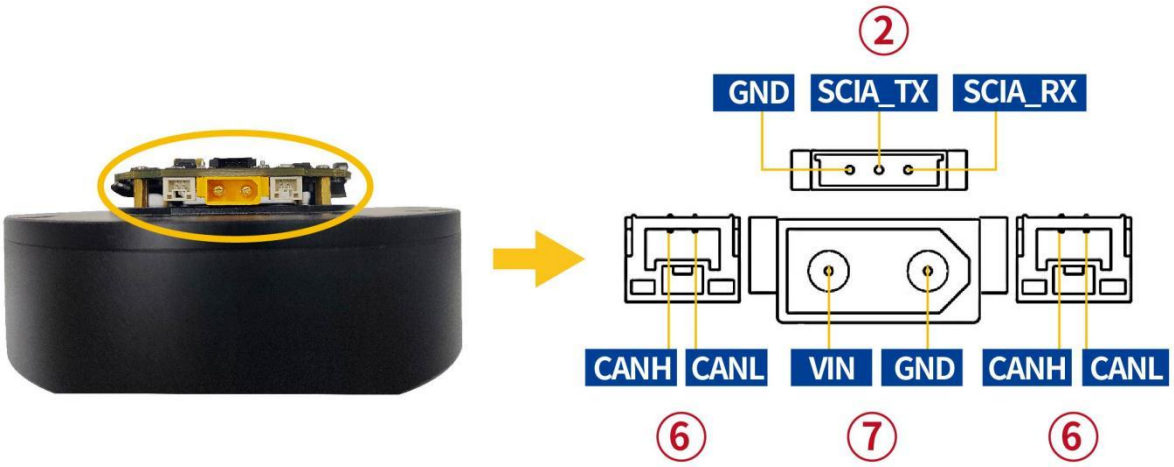
Version：V2.1

The MC series driver is a new generation of high-performance brushless servo driver launched by MyActuator, which can be widely used to drive various BLDC/PMSM motors. This series is MyActuator Intelligent based on years of low-voltage DC servo market experience and combined Various types of customer demand feedback. The drive includes various features, such as: power-off memory to realize data recording under power-off conditions; bus current sampling: real-time knowledge of the current-torque relationship and precise control of the torque output. At the same time, we match the friendly visual graphical interface for the new driver, which is convenient for users to quickly familiar with the product features. For more product information and user experience, please contact your dedicated technical consultant.

1. Driver Hardware Description

1.1 Schematic Diagram of Size and Interface





1.2 Interface Definition

Serial Number	Interface Name	Annotation	Connector Type
1	Terminating Resistor	120Ω	2.0 Pitch Pin Header
2	Debug Serial Port	Level Range：0-3.3v	51146-1.25mm-3P （molex)
3	Brake Interface	No positive or negative, 24v brake is recommended	Passing Hole Pad
4	Second Encoder Interface	Interface Protocol：SSI	Pad
5	External Battery Interface	1.5-4.2V (1S lipo)	Pad
6	CAN bus	Level range：0-3.3v	SM02-GHS-TB （JST)
7	Power Supply Port	Voltage range：DC24-48V	XT-30U-F (AMASSX)

2. Driver Parameters

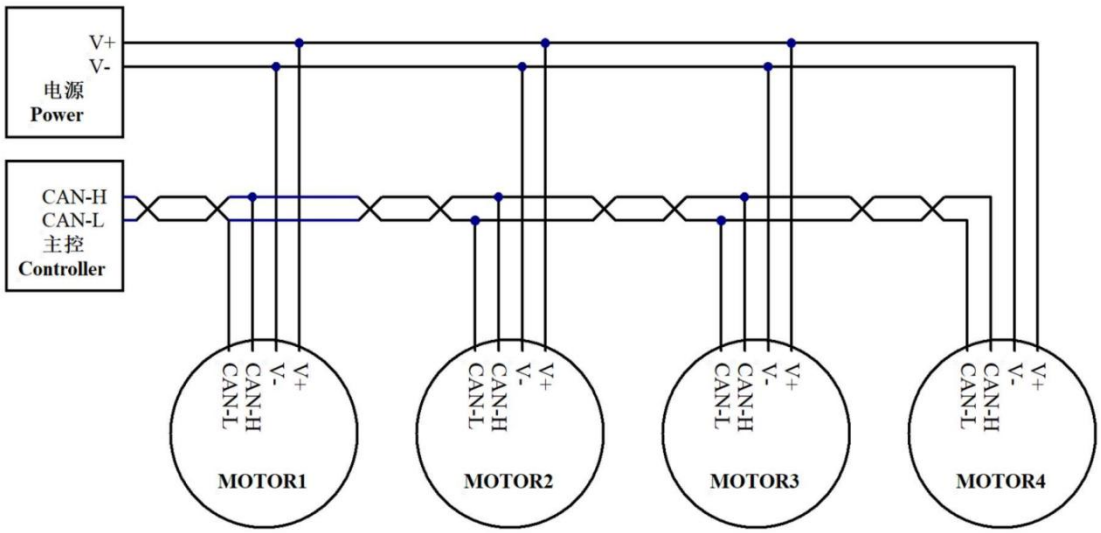
MC300A	Operating Voltage	24-48V
	Rated Current	5A
	Rated Power	300W
	Maximum Instantaneous Current	10A(30S)
	Control Mode Frequency	Torque Mode： 15KHZ
		Speed Mode： 5KHZ
		Position Mode:500HZ
	Mos Switching Frequency	15KHZ
	Encoder Resolution	16bit （Valid）
	Communication	CAN BUS :1M bps

3. The Main Function List of Driver

Serial Number	Function Name
1.	Read and write control loop KP&KI parameters
2.	Read and write motor acceleration
3.	Read and write encoder data
4.	Read motor status and errors
5.	Motor off command
6.	Motor stop command
7.	Motor running command
8.	Torque close loop control
9.	Speed close loop control
10.	Position close loop control
11.	Read input power value
12.	Read Battery voltage
13.	Torque feed forward function (applicable to robotic arm)
14.	System reset command
15.	Brake opening and closing
16.	CAN ID setting and reading

4 Control Circuit Connection

4.1 Principle Block Diagram



Note: Both ends of the bus need to be connected to 120 ohm terminal resistance

4.2 Schematic Diagram of Physical Connection

●Connect via serial port with myactuator GUI 2.1

●**Connect by CAN bus**