VOTOL controller self learning function

self learning functionis the function that VOTOL controller owned already, suitable for Hall encoder motors and magnetic encoder motors. Through the connection between controller and motor, the controller can self-learning the Hall phase shift angle of the motor and the number of motor poles, then debug through the controller. The self-learning function of the VOTOL controller operates differently depending on the type of motor. The following is the self-learning function operation mode of the Hall encoder motor and magnetic encoder motor VOTOL controller.

1. Hall encoder motor Operation mode of self-learning function

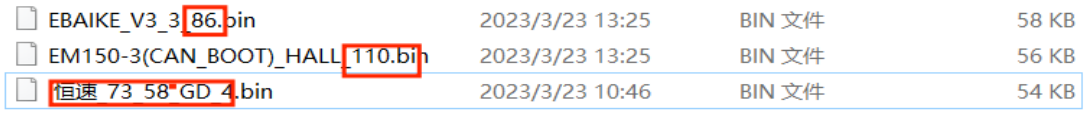
1.1First download the program with self-learning function

1.2Choose the correct program based on the controller model

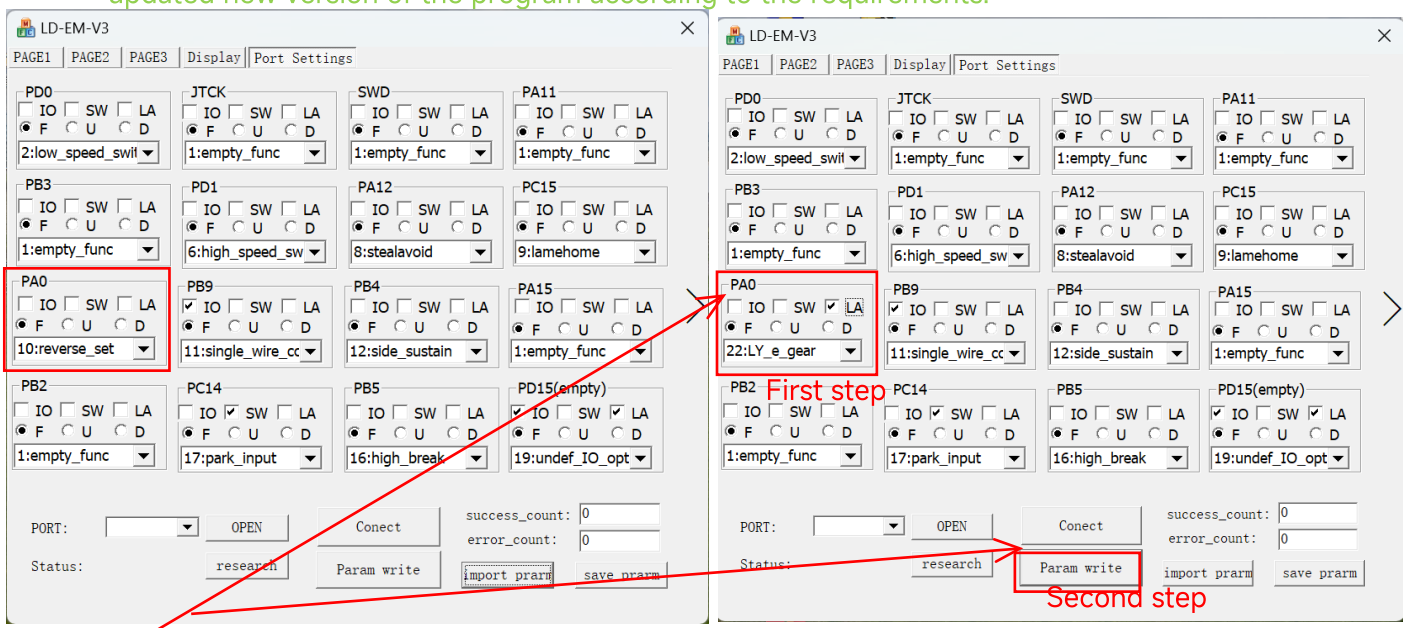
EM50-4、EM80 use program 86

Normal EM50、EM70、EM100、EM150use program 73-58-4

With CAN based controller use program110

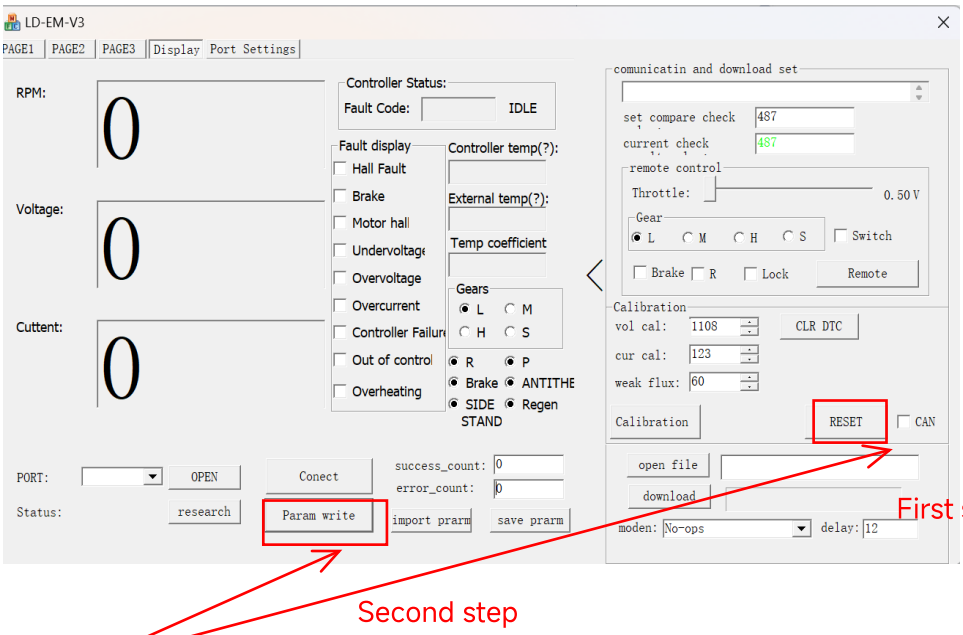


OBS: When there is an update to the controller program, it is necessary to use the updated new version of the program according to the requirements.



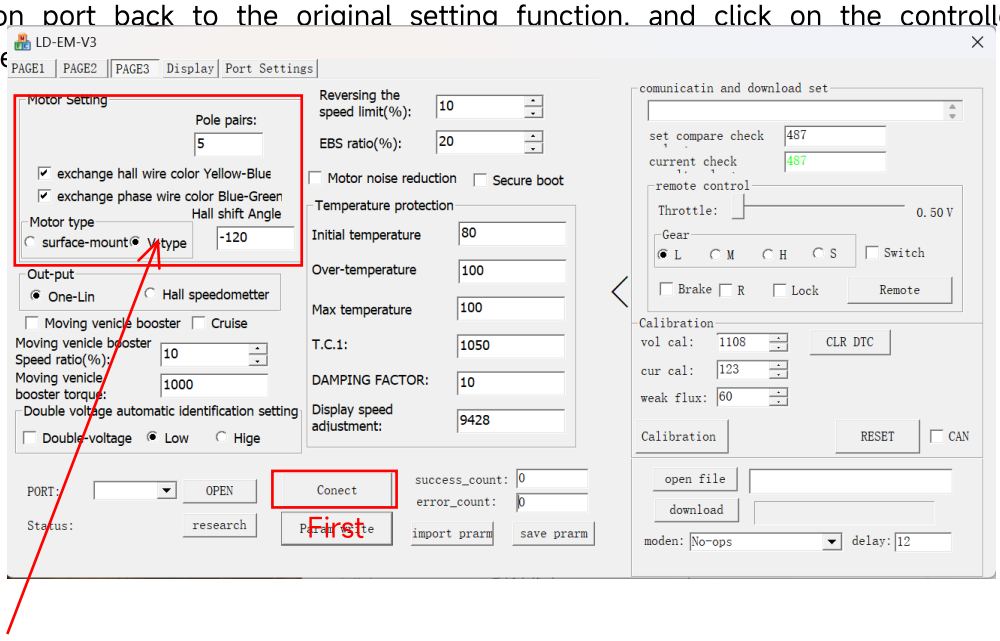
2. After downloading the program, enter the port settings page to set it up

2.1 Find the function port and use it to set the self-learning function (using an empty port is also possible, but it may not be possible to use the self-learning function). After setting, check LA (default). After setting, click on the controller parameter to write.



2.2After successful writing, enter the display interface and click to restart the controller on the display interface. The motor starts self-learning by rotating (pay attention to fixing the motor before self-learning to prevent motor shaking). After the motor stops rotating, self-learning is completed and the controller parameters are written.

2.3After self-learning is completed, return to the port settings, call the self-learning function port back to the original setting function, and click on the controller parame

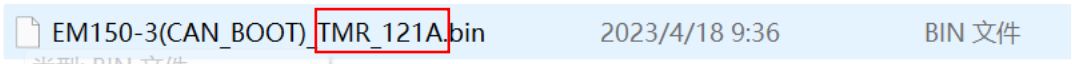


2.4Enter the settings page 3 and click on Connect Controller, to check the Hall phase shift angle and motor pole number change, if there is changes indicate successful learning, if not means the current motor angle and pole number are correct or not learned, and if not learned, repeat the above operation for self-learning.

2.5After successful learning, enter the display interface for testing. If the value of D Shaft voltage is at a reasonable value, it indicates that the learning angle and pole number are correct and self-learning is successful.

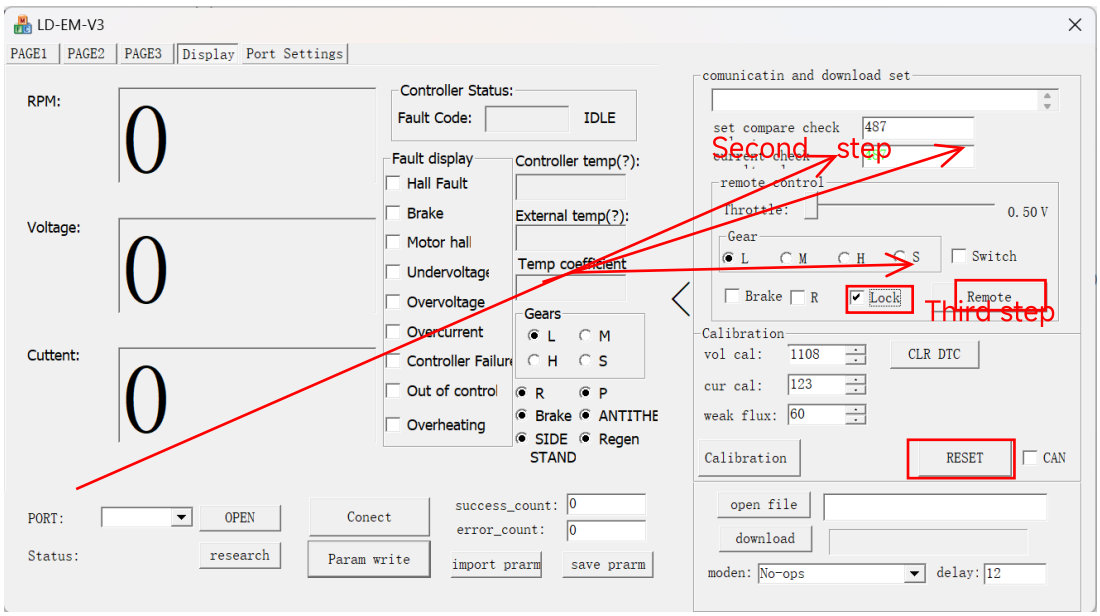
3. 3.Magnetic encoder moto Operation mode of self-learning function

3.1First download the program with self-learning function



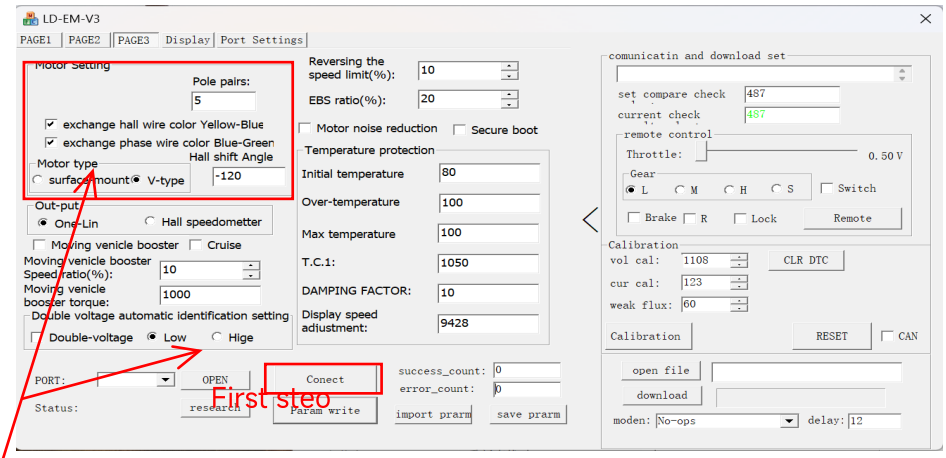
Magnetic braiding motors require the use of magnetic edge (TMR) specific programs, and TMR-121A is the latest magnetic braiding motor program

OBS: When there is an update to the magnetic edge controller program, it is necessary to use the updated new version of the program as needed.



3.2 After downloading the program, enter the display page for settings, click on remote control, then check the lock motor, and then click on restart the controller. The motor will start self-learning when it rotates (pay attention to fixing the motor before self-learning to prevent motor shaking).

3.3 After the motor rotation stops, uncheck the lock motor, click on local control, and then click on restart the controller.



3.4Enter the settings page 3, click on the connection controller, and check if there are any changes in the number of motor pole pairs and motor angle. If there are changes, it indicates successful self-learning. If there are no changes, it indicates that the current motor angle and motor pole pairs are correct or have not been learned. If not, repeat the above operation to self-learning again.

3.5After successful learning, enter the display interface for testing. If the value of Q Shaft voltage is at a reasonable value, it means that the angle and pole number are correctly learned and self-learning is successful. (When the motor is in rapid speed, the Shaft voltage of motor Q is 2800-3000)