



## **Mach3 Instructions for use of special electronic handwheel**

ModS1.0

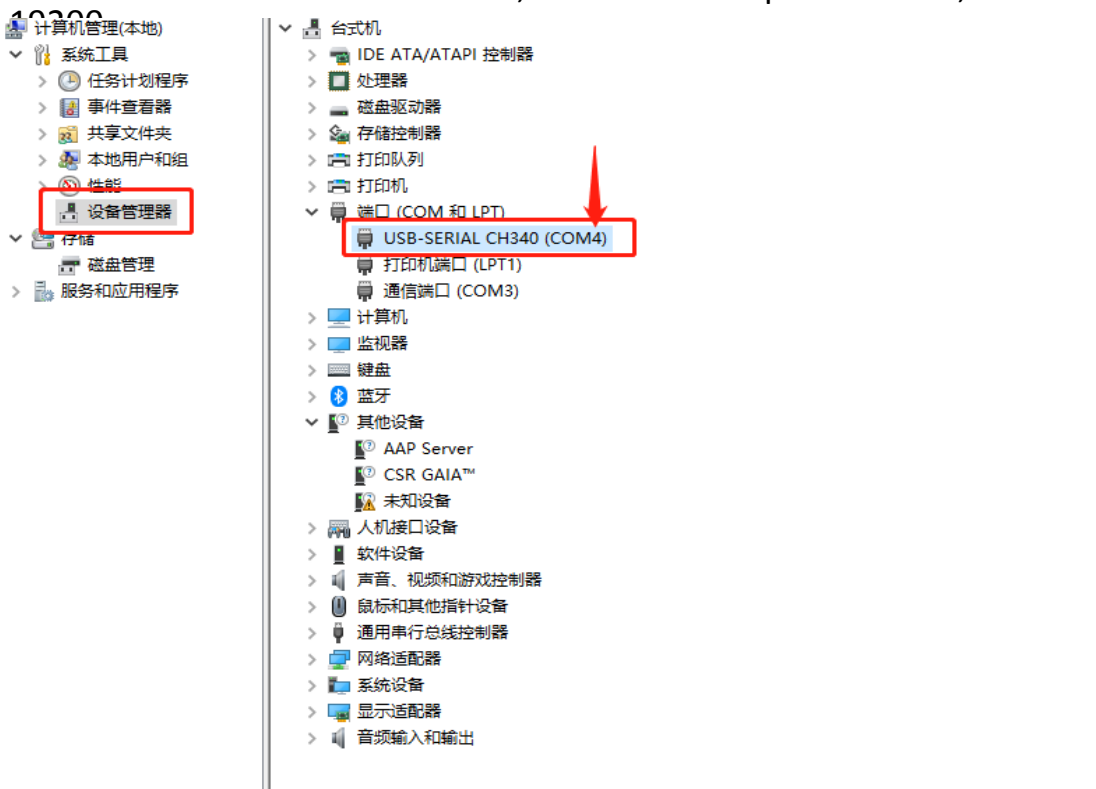
PCB version: 1.0  
Program version: 1.0  
Mach3 version: above 1.84

Welcome to use the electronic handwheel dedicated to ModSMach3. This handwheel is connected to the computer through USB, and the driver needs to be updated with the driver wizard. In order to succeed the installation you should have a certain understanding of Mach3. If you are using Mach3 for the first time and want to use ModS right away. It is recommended that you spend more time getting familiar with Mach3, which will play a very good role in your use and installation of ModS electronic handwheel.

1. Insert the handwheel USB and connect to the computer

名称	修改日期	类型	大小
CH341SER.EXE	2023/5/13 9:15	应用程序	643 KB

2. Install the latest CH340 driver, remember the port number, and set the port to



3. Copy Macropump.m1s (driver) to the C:\Mach3\macros\Mach3Mill folder

名称	修改日期	类型	大小
Mach3	2023/5/13 10:48	文件夹	
手轮驱动程序	2023/5/13 10:48	文件夹	
Macropump.m1s	2010/8/1 12:12	M1S 文件	2 KB
USBMach3专用电子手轮使用说明en.pdf	2023/5/13 10:54	Adobe Acrobat ...	1,407 KB
安装方法.docx	2023/4/23 18:20	Microsoft Word ...	17 KB
说明.txt	2013/11/28 13:06	文本文档	1 KB

4. Perform Mach3 settings according to the PDF manual.

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Mach3	2023/5/13 10:48	文件夹	
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## 1. Function introduction

- Rotary control of each axis movement
- Band switch to select the controlled axis (X, Y, Z, A)
- Band switch selection control mode (continuous step mode STEP and speed mode Velocity).

The manual control provided by Mach3 is realized by keyboard. ModS electronic handwheel is used to control each axis by turning the electronic handwheel. The movement of the motor, when you use the speed mode (Velocity), the movement direction of each movement axis is controlled by your shaking code direction of the encoder wheel. The speed of each axis movement is controlled by your shaking the speed of the rotating wheel. The operation is closer to habit. if you choose If the stepping (STEP) mode is selected, it enters the precise movement mode. When you can choose 0.01 gear, the wheel rotates 4 grids to send a pulse, and the controlled axis moves 0.01 according to your rotation direction. If you choose 0.1 gear, then the wheel rotates 1 grid, the controlled axis changes 0.1, and so on, 1 gear can control the variation of 1.

Note that X1, X10, and X100 are all counted. For example, if you choose X100 and shake it several times at once, it will take 25MM to move once. Even if the hand wheel has stopped, the software will count until the end of the movement.

When the distance is long, it should be selected at the CONT position, and when it is close to the workpiece, it should be selected at the magnification and then rotate slowly.



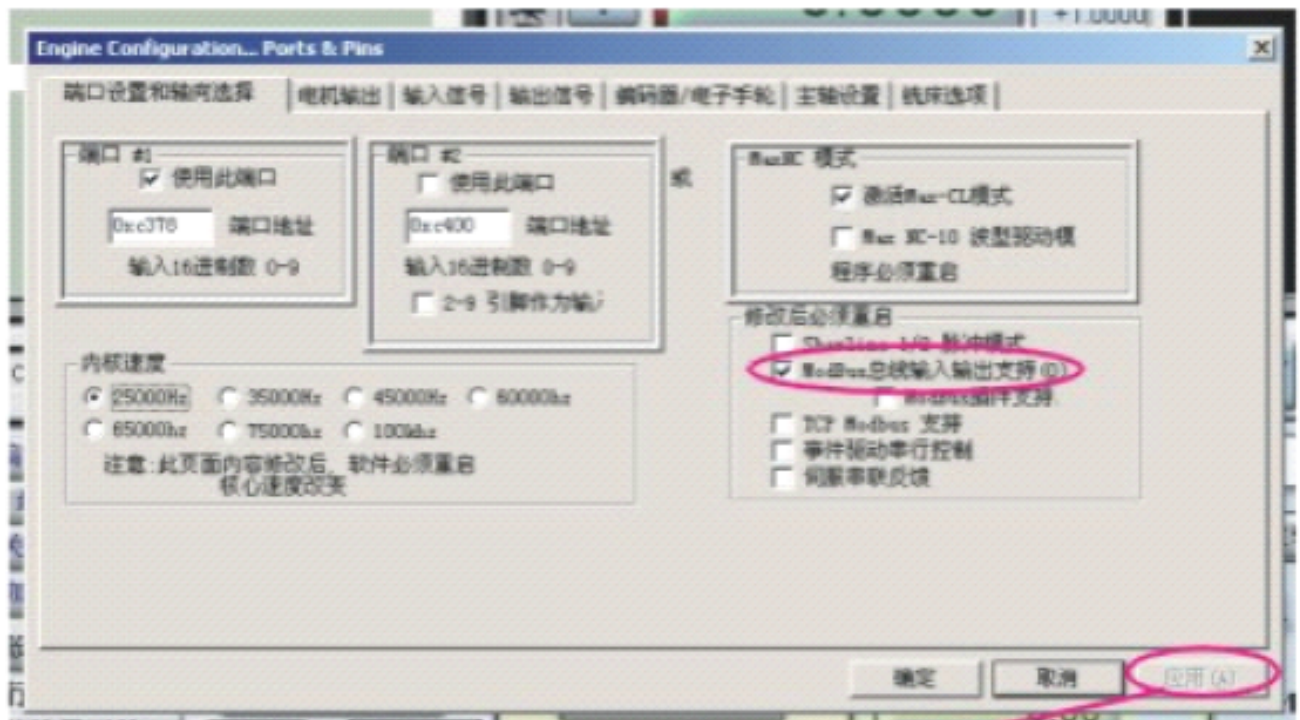
## 2. Installation settings

2.1 This electronic handwheel uses Modbus protocol to communicate with Mach3, and uses RS232 to USB to connect with the computer. Mach3 provides a very friendly modbus interface. So there is no need to install other drivers to use ModS electronic handwheel. When in use, the USB plug is connected to the computer. Run MACH3 (version 3.04)

open port/pin  
English version is  
PORT/PIN



After performing the above operations, the following dialog box appears, set the The box in front of Modbus bus input and output support is marked with a groove. As shown below.



Click the application before exiting to ensure that MACH3 saves your settings.

## 2.2 Click to set Modbus control



Enter the ModS handle you connected, and click-MyComputer - Device Manager - Port view USB COM(COM number) and enter the port number in the box below  
No error appears, indicating that your settings are correct

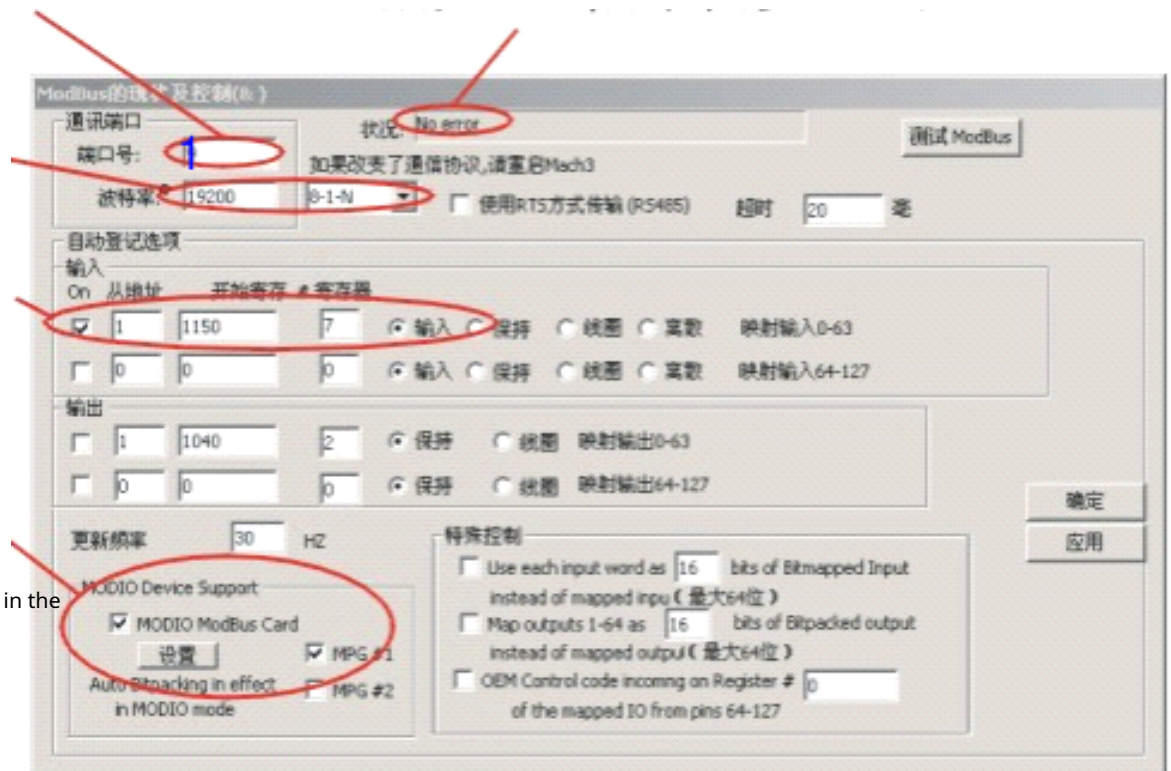
fixed  
baud

Rate 19200

According to the  
picture

set up

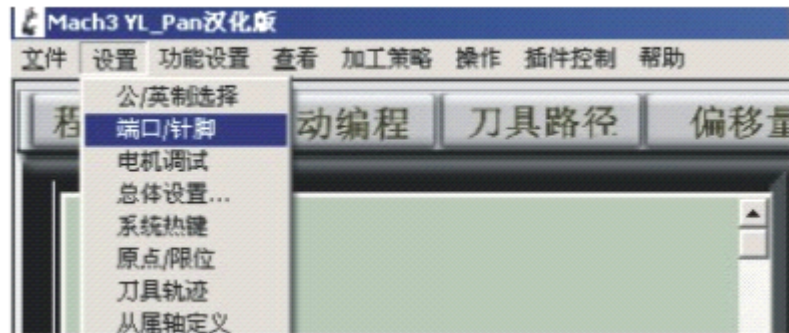
According to the settings in the  
figure



Note: Do not press the setting button and test Modbus button, so as not to change the settings.

## 2.3

Then select the port/pin



Select encoder/electronic handwheel window



Check the Enabled column of MPG#1, and input numbers according to the graphics for others, and then press Apply to save.

The numbers in Counts/Unit mainly correspond to the STEP file in the MODE file. For example, if you write 2 on MPG#1 corresponding to the Counts/Unit column, after it takes effect, then you select the 0.01 file of STEP. Turn the jog wheel two spaces, the number will change by 0.01. Input other numbers and so on.

The number in Velocity corresponds to the Velocity file in the MODE file. The larger the input number, the smaller the speed of the manual control axis.

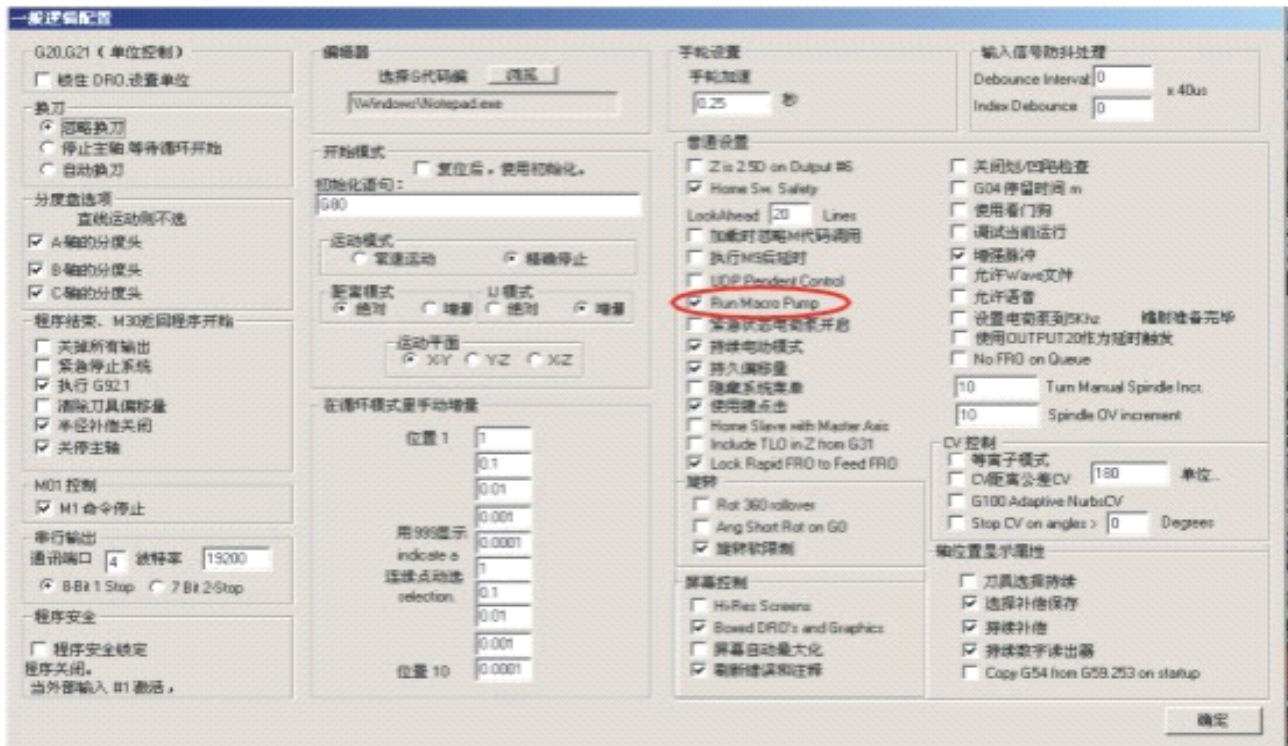
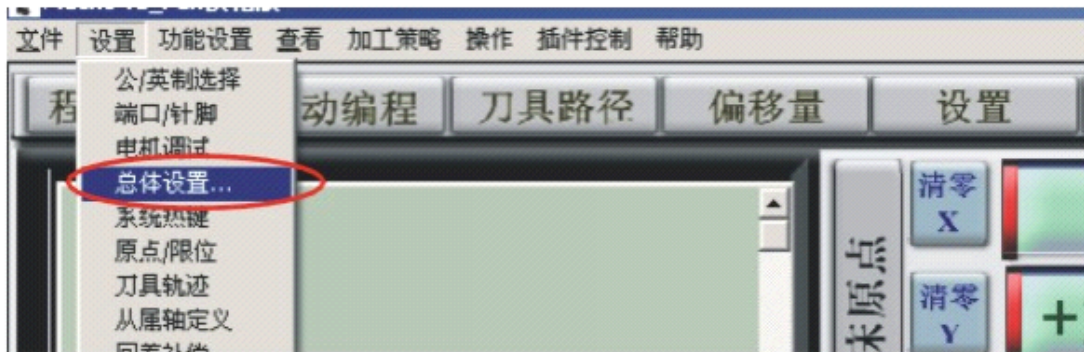
## 2.4

Download the Power On Pump Macro



put the "Macropump.m1s" file in C:\Mach3\macros\Mach3Mill.

If your Mach is installed on the D disk, then it should be placed in D:\Mach3\macros\Mach3Mill. Open general settings



Check the box in front of Run Macro Pump to select this option. After the above settings, the ModS electronic handwheel can be used. To make sure the settings have been saved, restart mach once. If the ModS handwheel still cannot be used normally, please recheck whether your settings are correct and whether the settings have been saved.

You can press the TAB key to bring up the interface of the simulated handwheel, rotate the various components on the ModS, and the computer display of Mach will make corresponding changes. (as the picture shows)

#### Notice~

- 1: The ModS electronic handwheel should be connected to the computer before turning on MACH3. If the electronic handwheel is connected after turning on Mach3, the movement axis may move continuously for a period of time. Press the emergency stop, and then reset to normal.
- 2: After the ModS is connected to the computer, it can always be connected to the computer if it does not need to be separated from the computer.