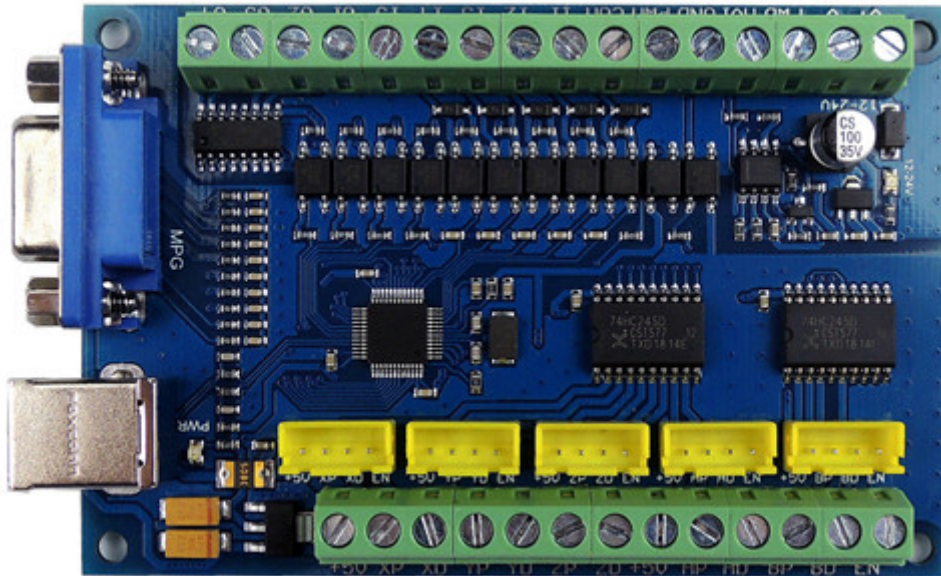


Mach3 installation & configuration instructions (STB5100)

V2.1

Note: The software settings and plugin in the instructions only apply to the STB5100 motion control card and cannot be used for other mach3 motion control cards.




Contents

1. Prepare:	2
1.1. Installation the Mach3:	2
1.2 Software settings and plug-in import:	2
1.3 Reset Computer, Complete software installation.	3
1.4 Start the Mach3 software	3
2. Config for mach3:	4
2.1 Motor Outputs configuration:	4
2.2 Motor tuning configuration:	4
2.3 Setup the input signal:	5
2.4 Enable signal configuration	5
2.5 Setup the Output signals:	6
2.6 Spindle speed control (0-10V) Setup:	7
2.7 Mach3 MPG Setup:	8

1. Prepare:

1.1. Installation the Mach3:

Open the CD, find mach3 software, run the installation file:

新建文件夹			
名称	修改日期	类型	大小
 Mach3VersionR3.041	2014/1/10 13:23	应用程序	25,733 KB

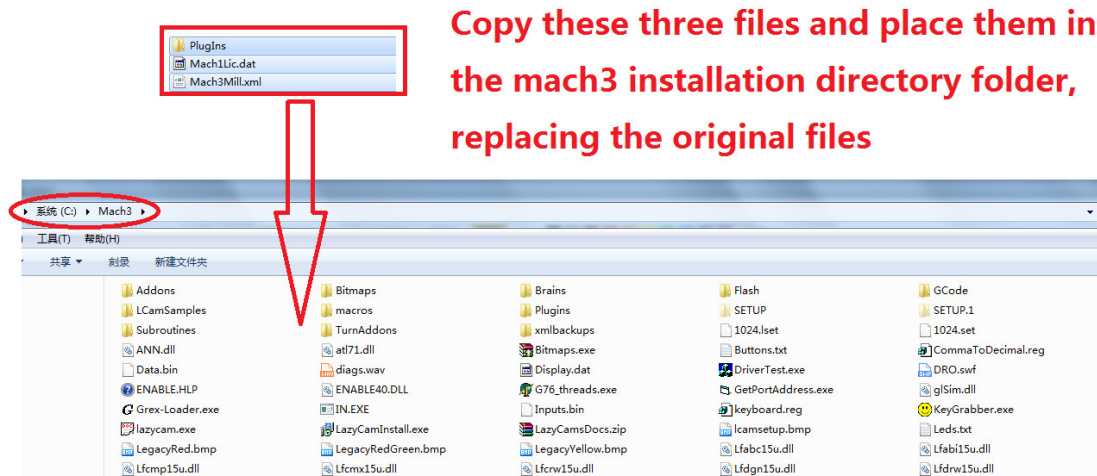
Follow the prompts to install, until the last step.

The last step requires Note: For 64-bit computer, it is best not to select "LoadMach3 Driver" this one, because it will cause the system to prompt installation errors.



1.2. Software settings and plug-in import:

Copy the file "Mach3Mill.xml" 、 "Mach1Lic.dat" 、 folder "PlugIns" replace those files with the same name in the mach3 installation directory, as shown in the following figure:

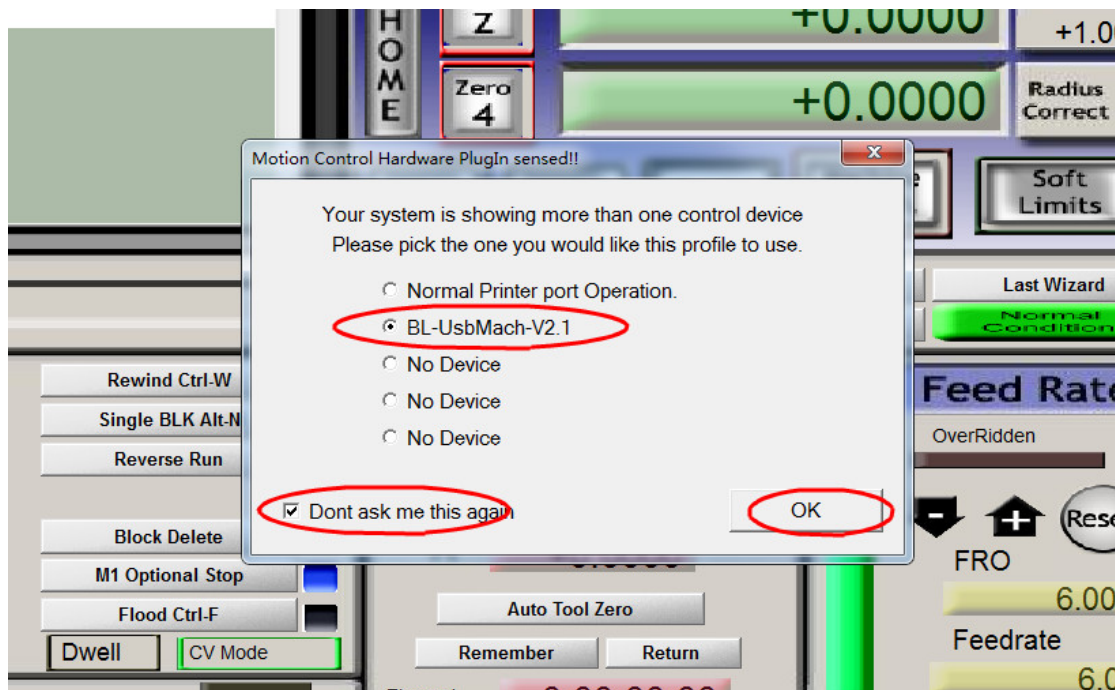


1.3. Reset Computer, Complete software installation.

Reset Computer: Must reset the computer, please don't open the software directly!

1.4. Start the Mach3 software

Click on the desktop icon "Mach3Mill", a dialogue of "Motion Control Hardware PlugIn sensed!" will be show. Please select the "BL-UsbMach-V2.1", you can also select "Don't ask me this again".

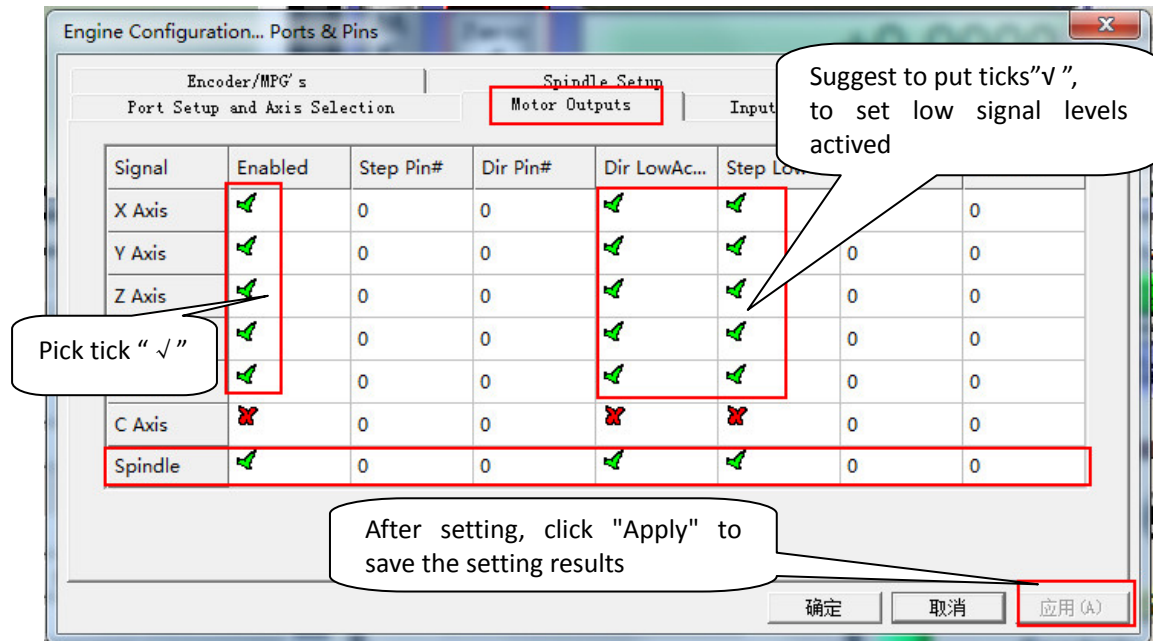


2. Config for mach3:

Note: The configuration of the software has been completed through the previous step, it can be used. The following is explanation for the software configuration. The USB control card is different from the parallel interface board. Some pin definitions have been completed in the plug-in, so the pin number of many places is 0, which is not an error.

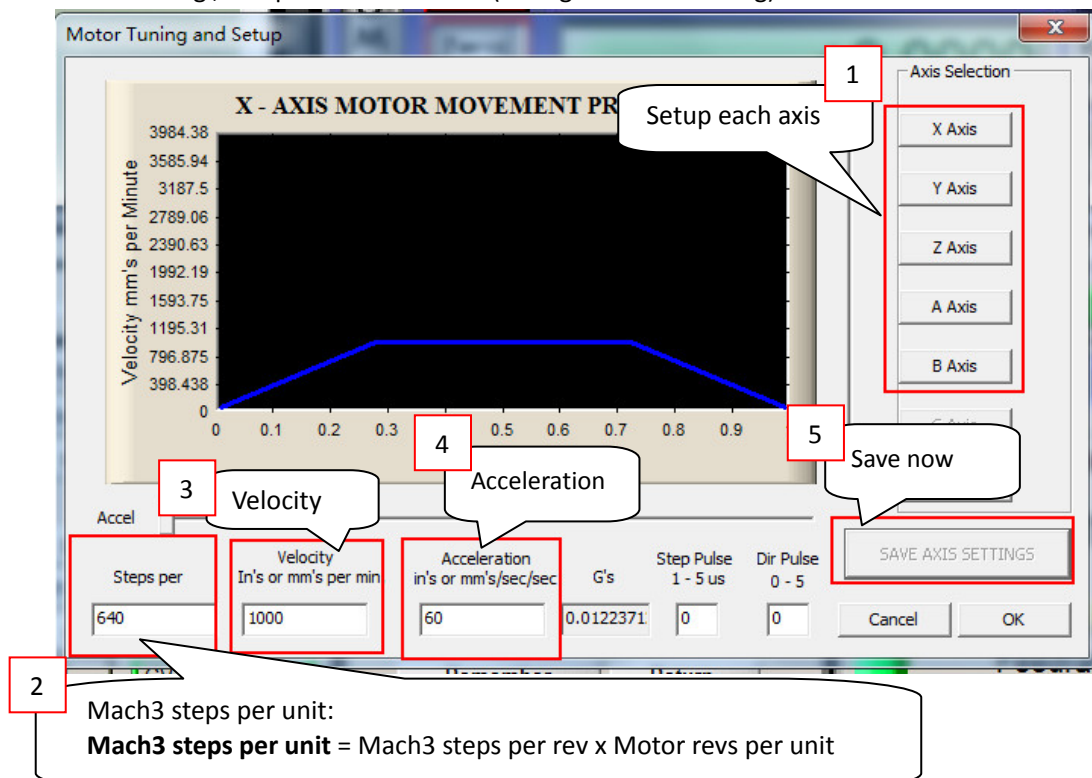
2.1 Motor Outputs configuration:

Mach3 X、Y、Z、A、B Axis configure as shown below: Config => Ports and Pins):



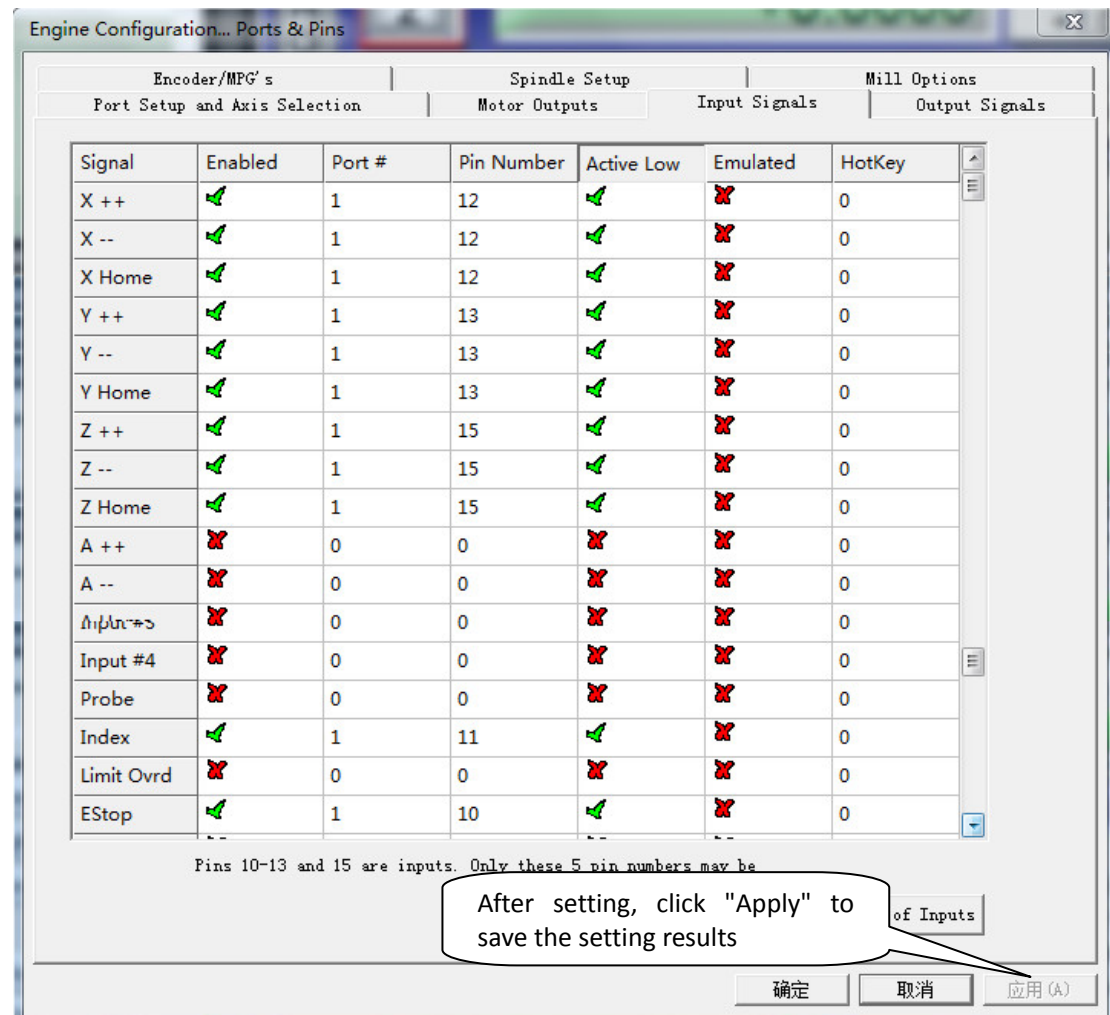
2.2 Motor tuning configuration:

Motor tuning, setup as shown below: (Config => Motor Tuning):



2.3 Setup the input signal:

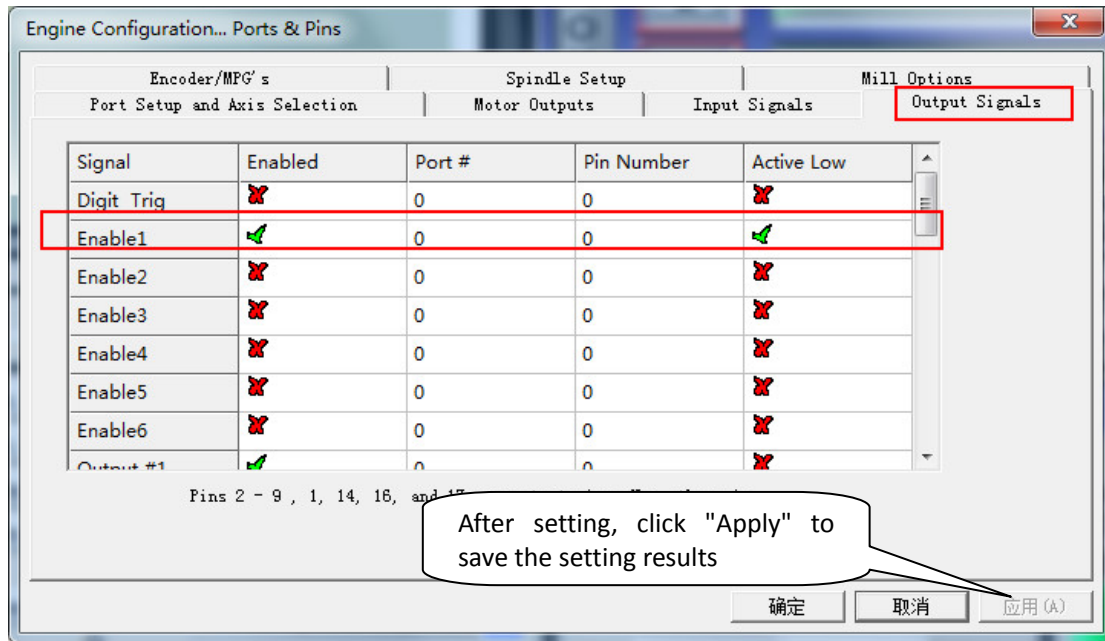
There are 5 general-purpose input channels. The channels number is from I1 to I5, Pin number: I1=10, I2=11, I3=12, I4=13, I5=15,



Note: The input interface is set according to the normally open input contact switch. If the switch uses a normally closed port, such as an emergency stop switch, the item "Active low" needs to be changed to "X".

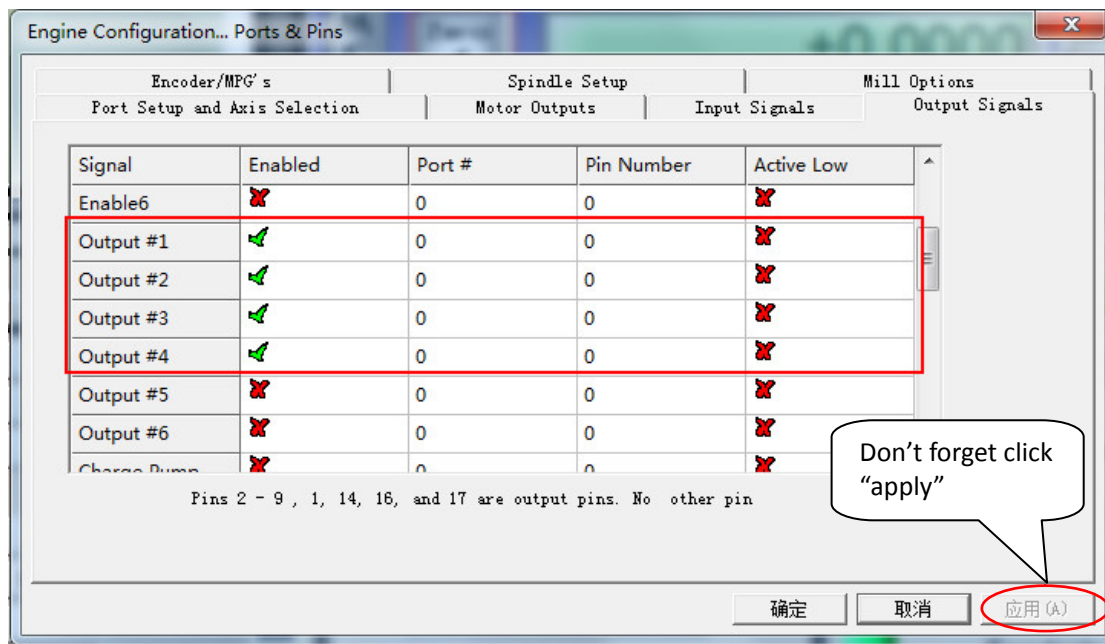
2.4 Enable signal configuration

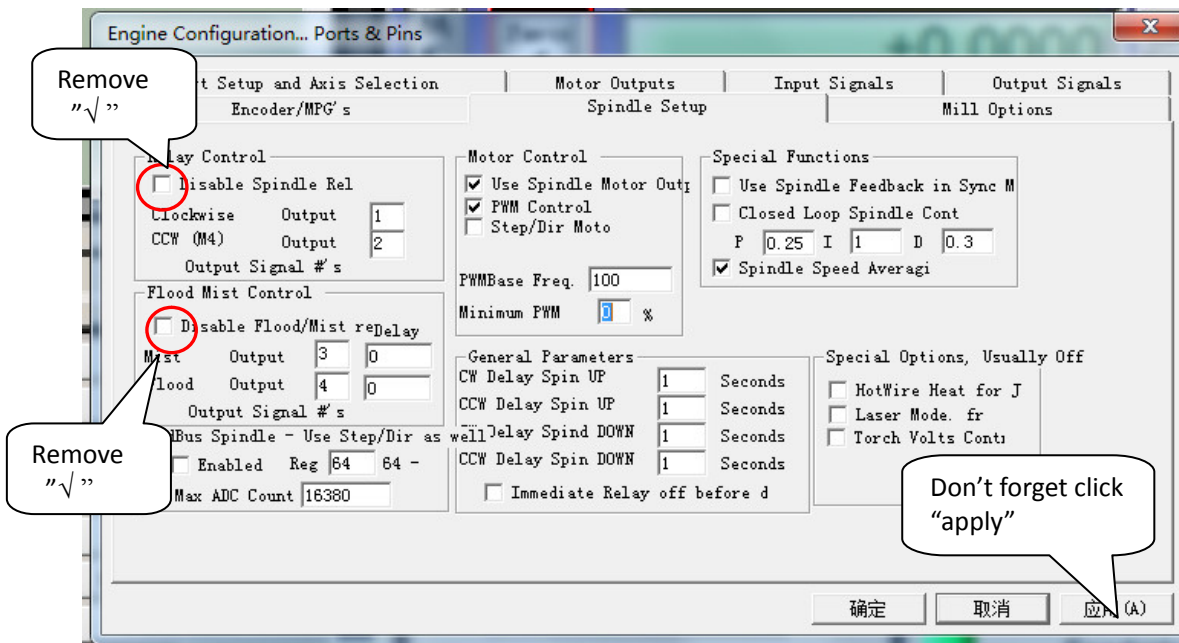
Configure the enable signal as shown in the figure below:



2.5 Setup the Output signals:

There are 4 general-purpose (open-drain) output channels, the channels number is from O1 to O4. mach3 setup as shown below:





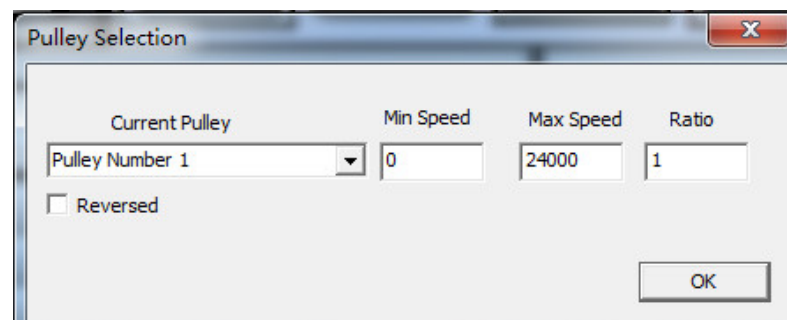
M3 code control output 1 output, M4 code control output port 2 output, M5 shut down output 1 and output2.

M7 code control output 3 output, M8 code control output port 4 output, M9 shut down output 1 and output2.

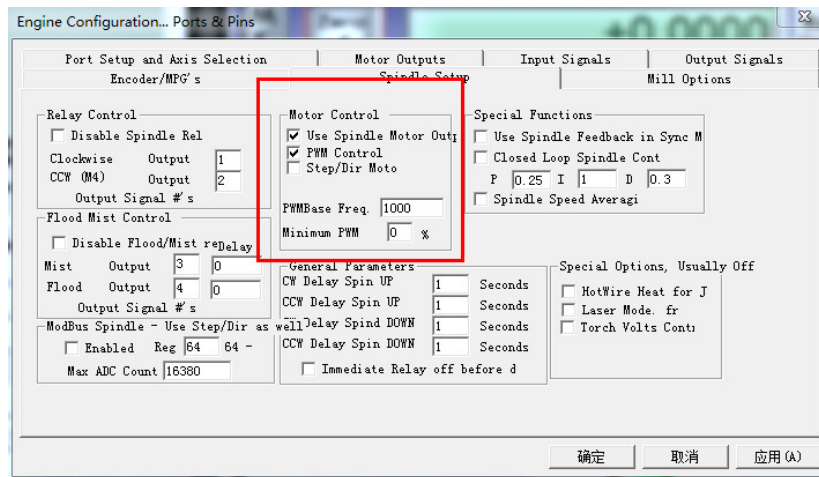
2.6 Spindle speed control (0-10V) Setup:

There is 0-10v signal output on the control card, can be used to connect the Inverter to control the spindle speed.

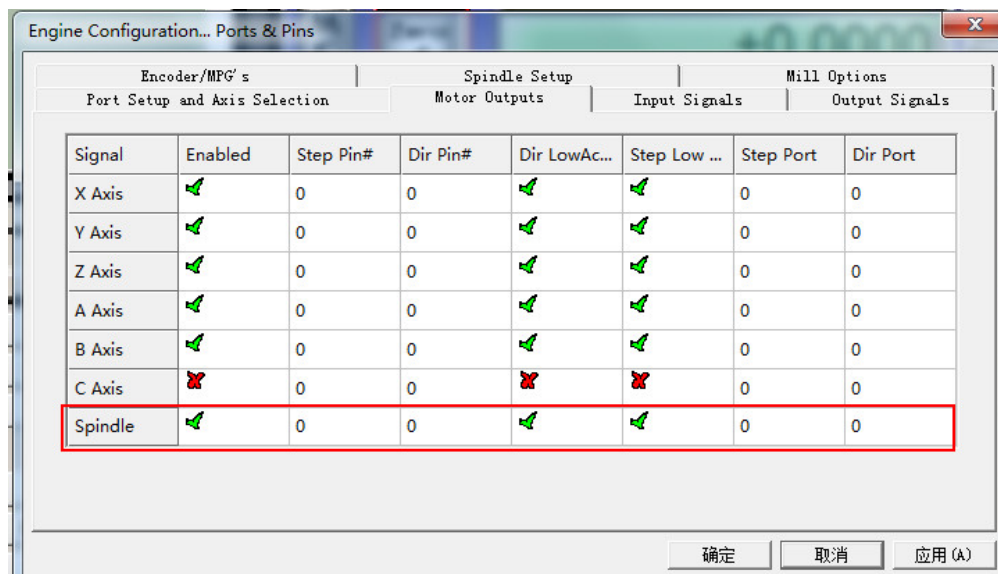
According to the actual parameters of the inverter and the spindle, set the maximum spindle speed (for example, 24000RPM). As shown below: The Mach3 Menu => Config => Spindle pulleys:



Setup Spindle parameters: as shown in the red box



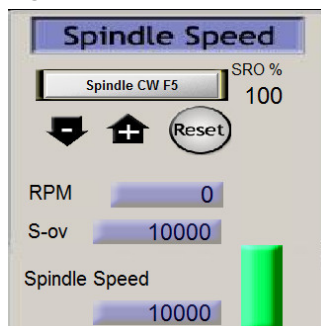
Enable spindle output. As shown below:



Complete the setting, there are two ways to control the output value of 0 ~ 10V.

1. Using the S command. Such as S20000 (the speed to 20000RPM)
2. Using the Mach3 interface to control (input Spindle Speed, and adjust Percentage SRO's).

Figure:

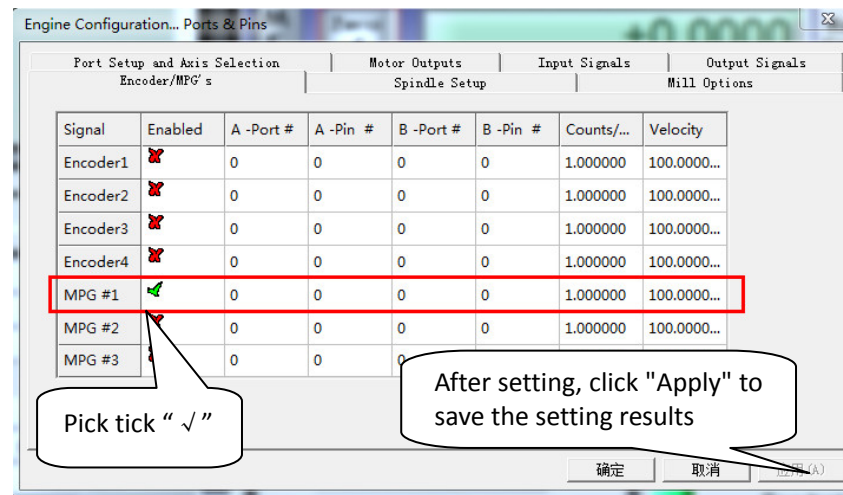


2.7 Mach3 MPG Setup:

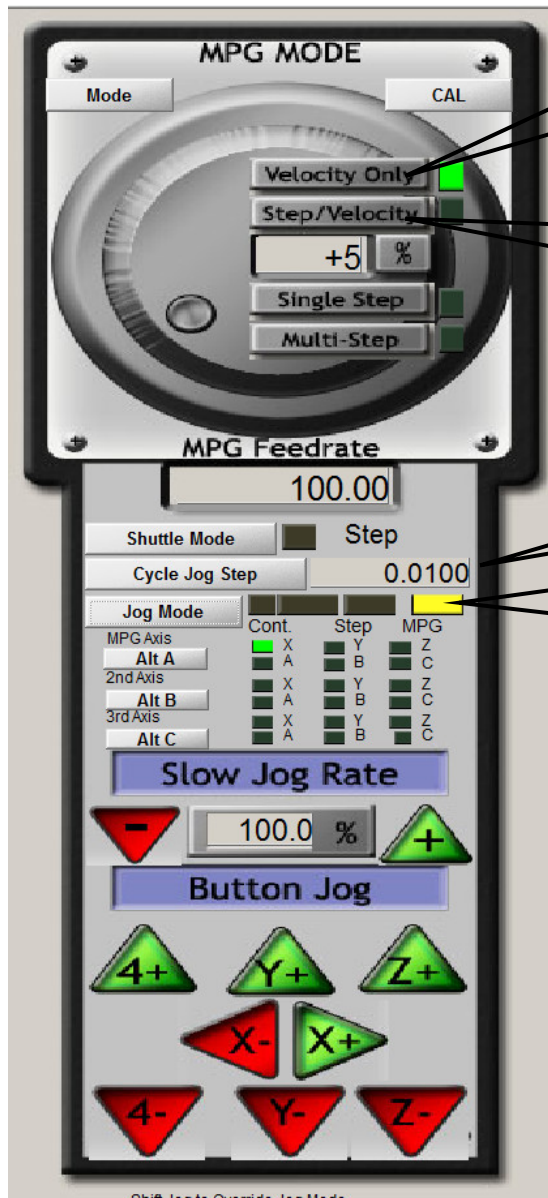
Note: The electronic hand wheel selection 5V voltage output models, more than 5V output will damage the hand wheel interface, refer to the following wiring diagram:

Mach3 MPG Setup:

The Mach3 Menu => Config => Ports and Pins => Encoder/MPG'S



Press the "Tab" key on your keyboard, to bring up the "MPG MODE" , MPG mode can be selected or view MPG status.



Speed mode: the hand wheel X1 gear rotates 1 grid, the motor runs one step

Step/speed mode: Handwheel X1 rotates 1 grid, motor runs for the specified length

"Specify step size": Click "Cycle Jog step" to select: 1/0.1/0.01/0.001/0.0001 (unit mm)

The electronic handwheel is turned on or off, "Jog mode" will automatically switch