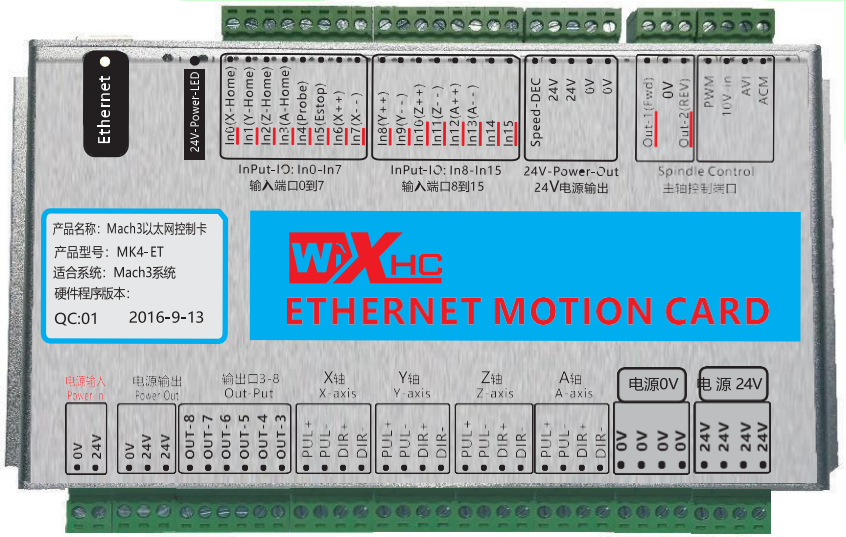
Support CNC System:
Mach3 only

MACH۳ Ethernet Breakout Board

MKX-ET Specification



Product Size : 184x۱۲۷x30mm

MK۳-ET : ۳ Axis Ethernet breakout board

MK٤-ET : 4 Axis Ethernet breakout board

MK٦-ET : 6 Axis Ethernet breakout board

ChengDu XinHeCheng Technology Co.,Ltd

English Manual

Features:

★ Fully supporting all Mach٣ versions,support Windows PC,

★ Only support Ethernet interface,Need to set IP address

(Please read the last page for reference)

★ Support save data when power off

★ Support spindle speed feedback

★ Support ١٠ meters Ethernet interface cable

★ Supports Up ٦-axis

★ Maximum step-pulse frequency is ٢٠٠٠KHz

١٦ general-purpose input,٨ output

★ Velocity feedback function, Spindle speed display in real time

★ all IO-port isolation, interference, stable performance

★ Support servo motor and step motor

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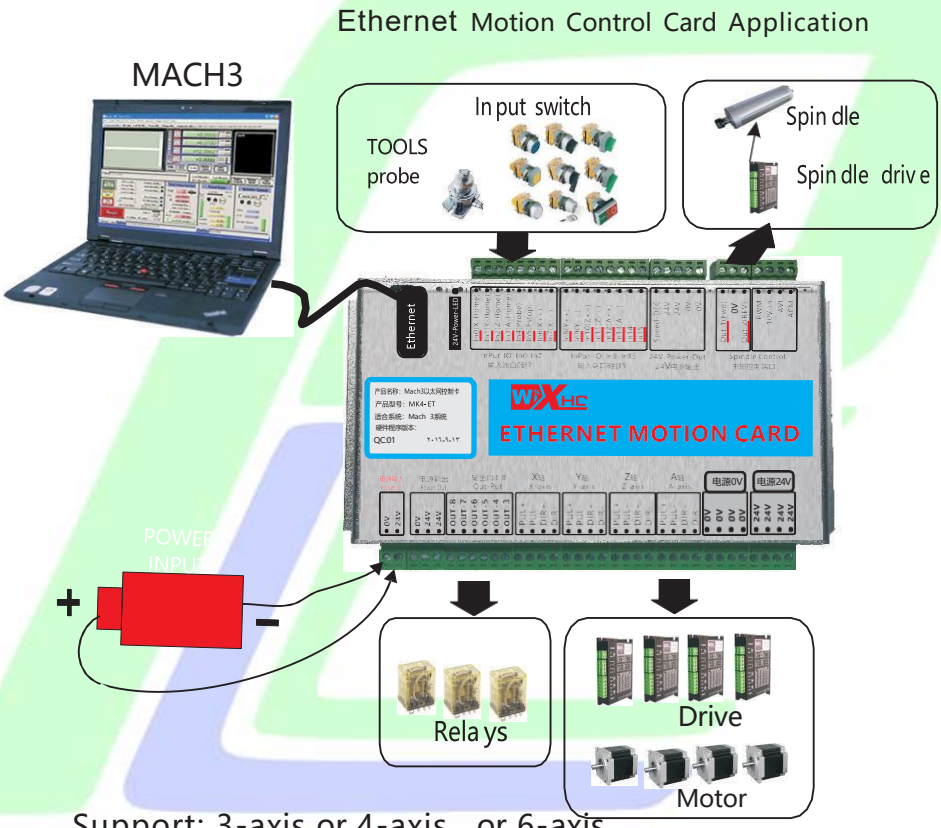
Simple connection description

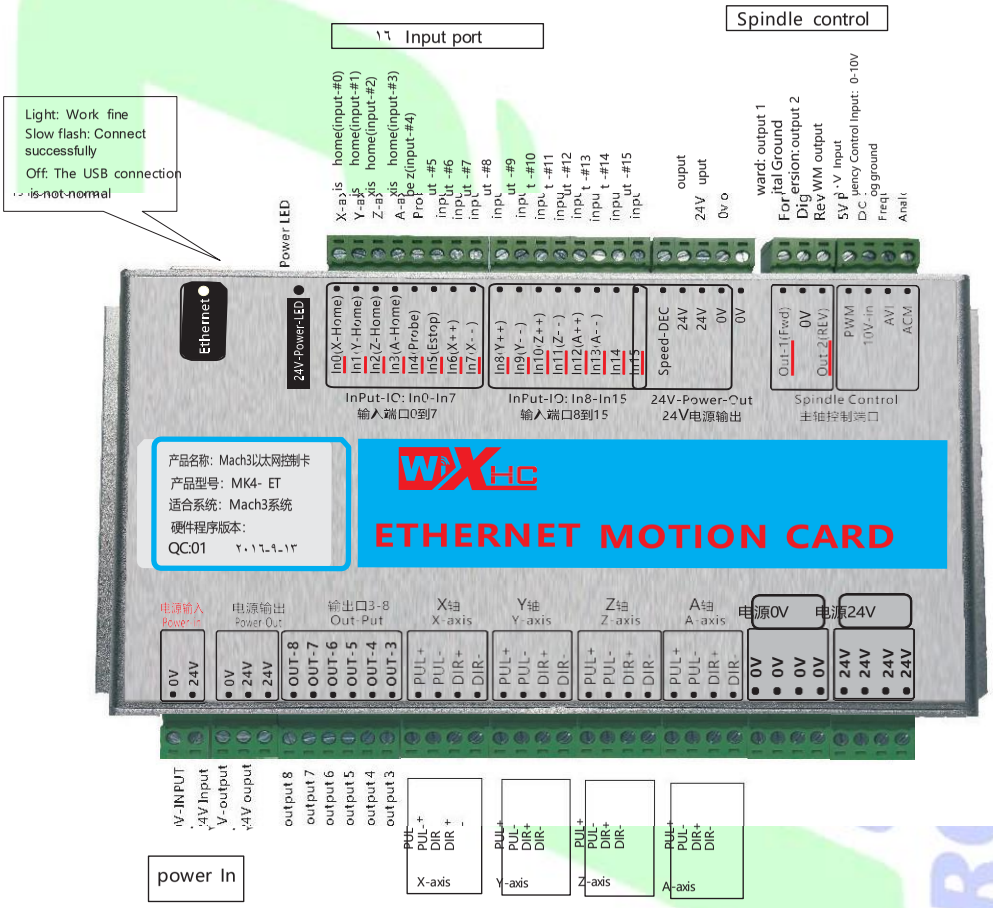
Application Connection Diagram



Support: 3-axis or 4-axis, or 6-axis

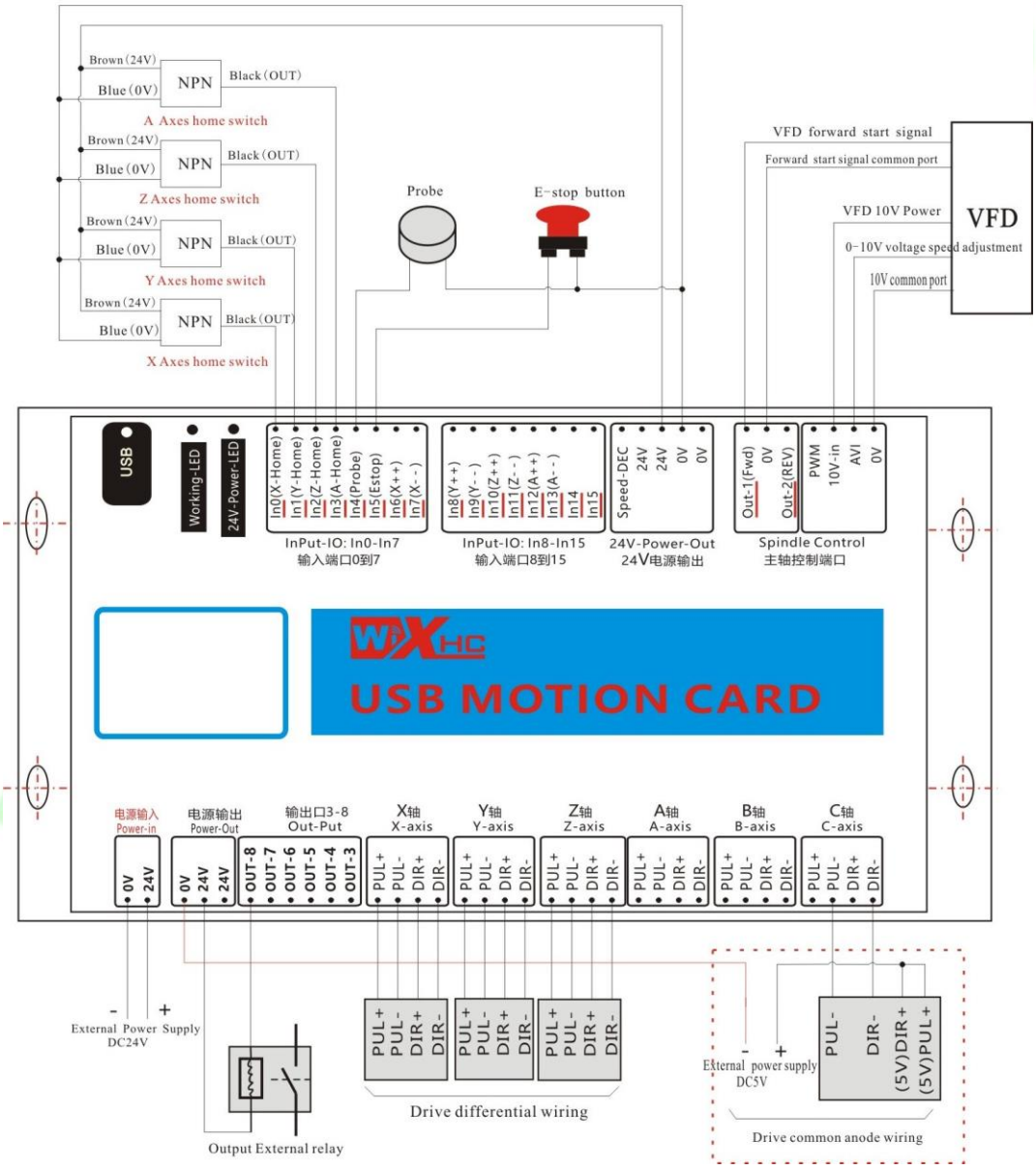
Mk3-ET: 3-axis; Mk4-ET: 4-axis: Mk6-ET: 6-axis

Signal Description



Wiring diagram shows

NOTE: If the inverter is turned on, the control card is not working properly because of interference caused by the inverter; Replace inverter.



Electrical Characteristics

	Parameter Description	
axis output control:	Drive Current	Isolated open collector output; ٥V, ٢٠mA
	Drive	Pulse + direction output
	Output frequency	٢٠٠٠KHZ
	axes	MK٣-ET:٣-axis;MK٤-ET:٤-axis;MK٦-ET:٦-axis
	Isolation Voltage	٣,٥KV
Spindle inverter output: ٣ types of output modes	Analog voltage output	٠—١٠V
	PWM output	٥V,١KHZ,Duty;٠-١٠٠٪
	Pulse+direction output	٥V,١٥HZ to ٤KHZ
٨ IO output	Drive Current	Isolation:٥٠mA, ٢٥V
	Isolation Voltage	٣,٥KV
١٦ IO intput	Input Current	Isolated inputs, ٥ mA, maximum voltage ٢٥V
	Isolation Voltage	٣,٥KV

Software installation

- First,Install Mach٣ software to your PC.

- Second, copy our driver files into mach٣:
  ١. Copy the driver file NcEther.dll in Plugins folder to Mach٣ plugins folder (C:\Mach٣\Plugins)
  ٢. Copy the configuration file Mach٣Mill.xml to the Mach٣ folder of disk C (C:\Mach٣)
  ٣. Copy all m codes, such as M٩٣٠, m٩٩٩, etc., from macros folder into Mach٣ macros folder (C:\Mach٣\macros)

- Check our wiring for reference, connect our card to your machine correctly

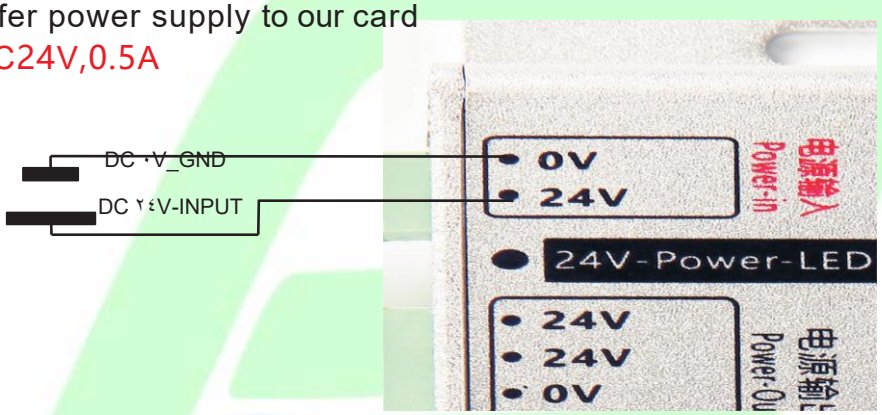
- Connect your PC to our card by using network cable

- After these steps, you can open your Mach٣ software for operating

Please take a look at mach٣ software parameters setting,Step per and so on in the printed manual of our packing box for reference.

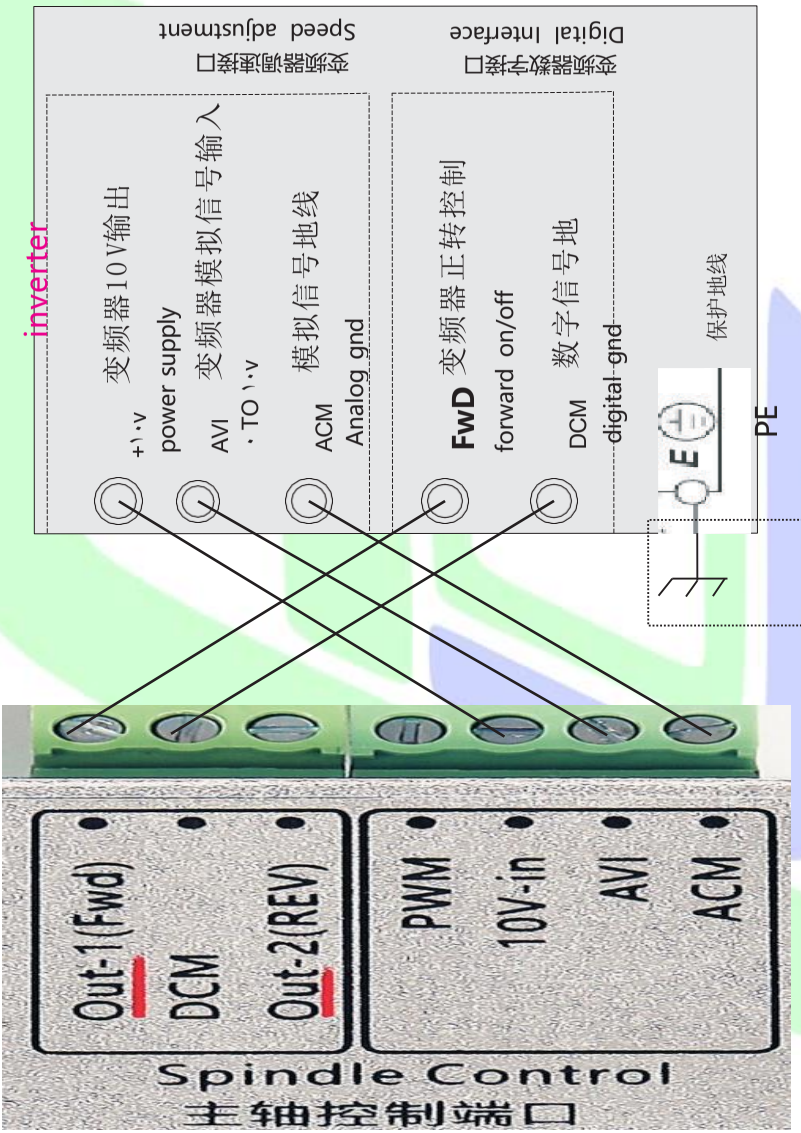
MKX Wiring

1. Offer power supply to our card
   DC24V,0.5A



2. Drive connection.
Our card support Servo or stepper drive, Differential output signal

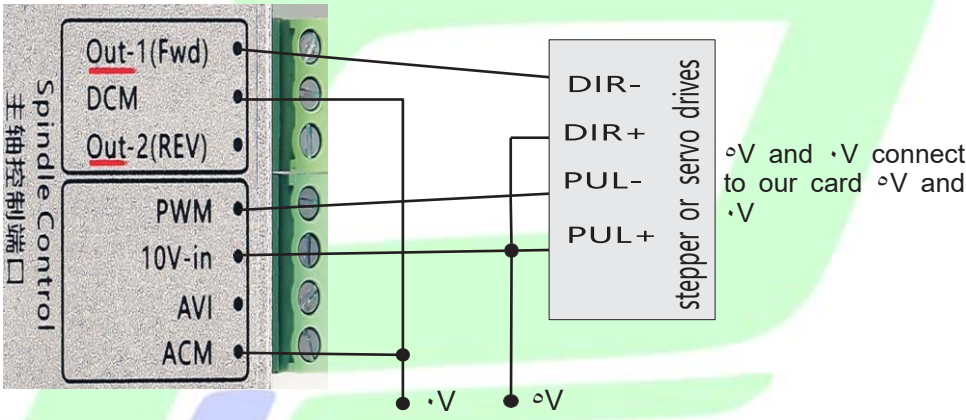
NO.3: Inverter wiring for reference



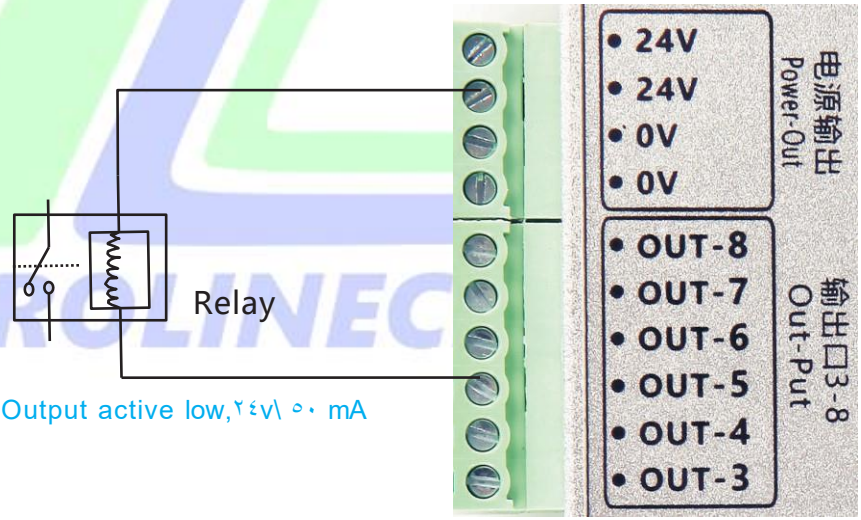
Connected to the machine housing

MKX Wiring

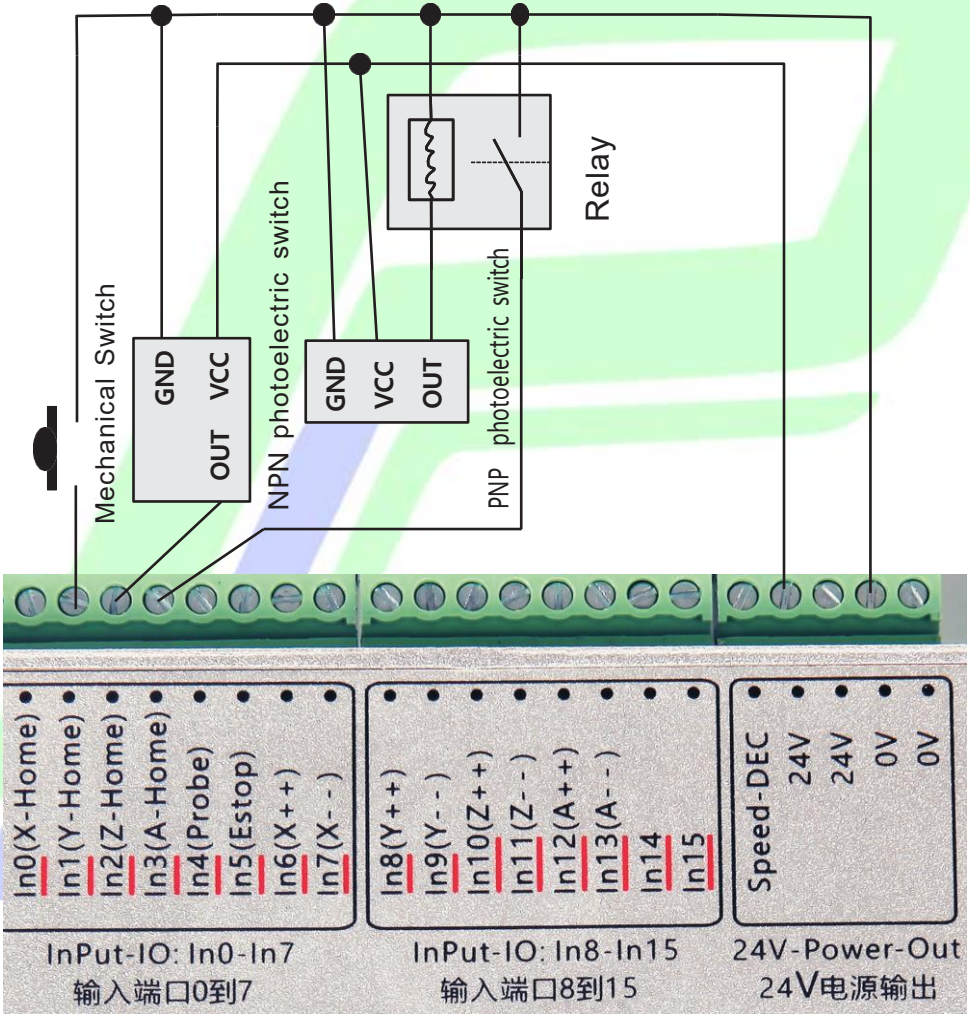
Spindle connected stepper or servo drives



NO.4: Output Relay Interface: OUT٣ to OUT8 Relay Interface



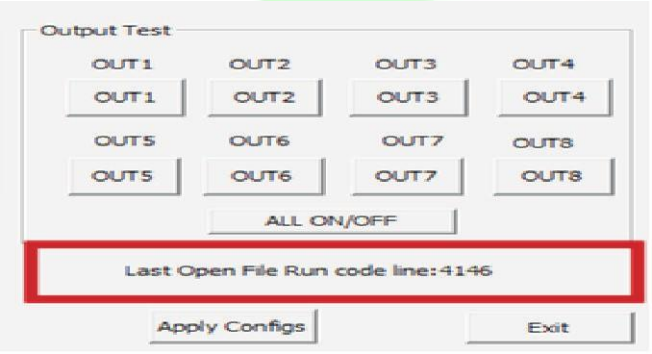
NO.5: Input Io: 16 Input port;In۰ to In۱۵.Active Low



New Function

G-code line quantity save function

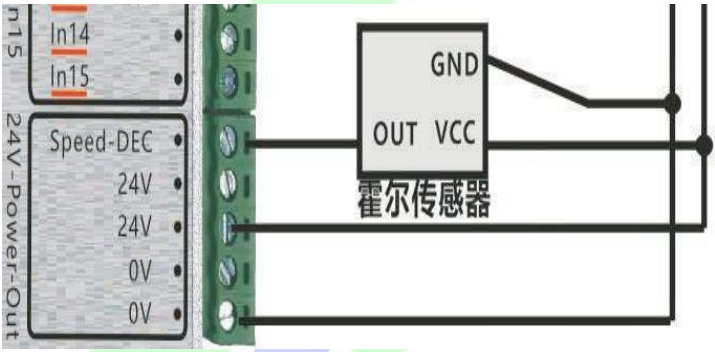
When our control card suddenly power off, the control card chip automatically save the current G code line number. Control card plug-in display save the number of lines.



Wait until the control card is connected to the power supply next, load the G code program, click the power to continue to the break continue button, Mach۳ software automatically from the last save the number of lines to start running.

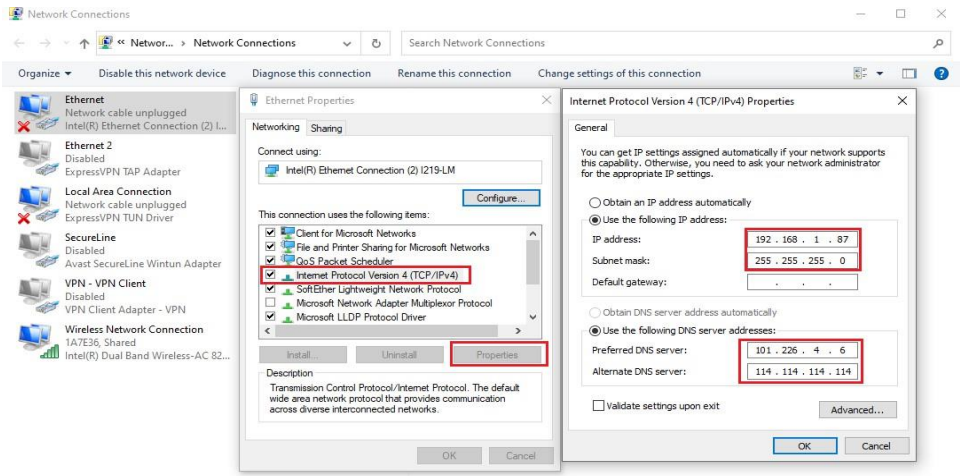
Spindle speed feedback

Current Spindle rotary speed send to our card port “Speed-DEC”, then display RPM speed on Mach٣.Maximum support feedback input Pulse frequency ٢٠KHZ.



First step: the computer IP address setting.

<Ethernet card directly connected to the computer> Please open“network sharing center”,select the “local connection - property”,open"Internet protocol version ٤ (TCP/IPV٤)", and manual input IP address ١٩٢,١٦٨,١.xx(XX from ٠-179, can not be repeated)

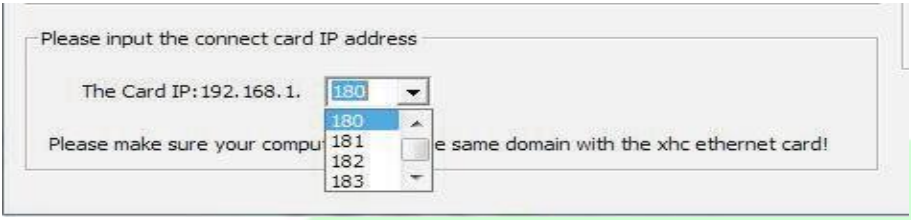


Ethernet card connected to the router

If your Ethernet card is connected to your computer via a router, Please make sure your router IP address format is ١٩٢,١٦٨,١.xx , If not, modify your router IP address into ١٩٢,١٦٨,١.xx format. Otherwise unable to communicate. Modify the IP address of the router, and then manually set the IP address of the computer in accordance with the above method.

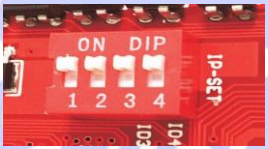
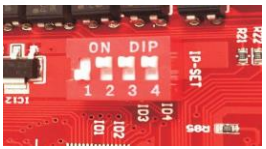
The second step: Ethernet card Mach٣ software IP address Setting

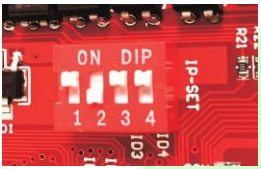
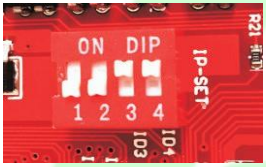
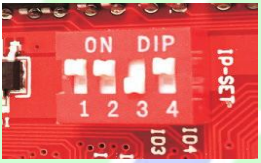
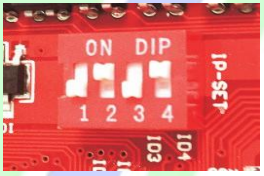
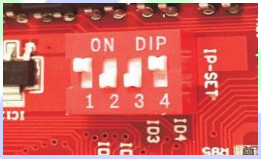
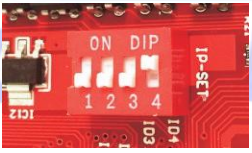
After PC IP address is set up, open the Mach٣ software "plug-in control"in the figure below the location of the choice of a IP address, range: ١٨٠-١٩٥.(If you have only one set of control card, skip this setting. Factory defaults IP:١٨٠)

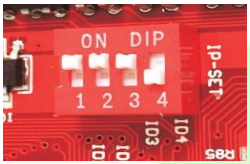
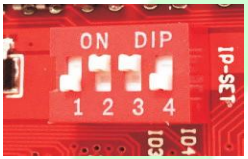
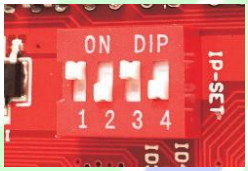
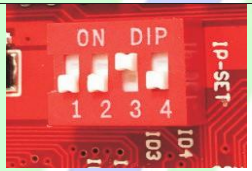
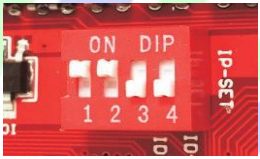
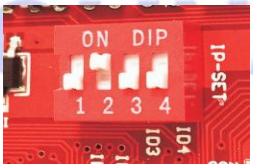


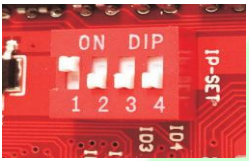
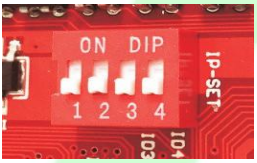
The third step: IP internal Ethernet switch setting

if you only connected with ١ set of our Ethernet control card, skip the step. IP factory default is ١٨٠ open Ethernet control card control card circuit board in the shell, the upper inner has a red dial switch, a total of ٤ of them. You can set the IP, range: ٠-١٥, corresponding to the IP address of the Mach٣ software plug-in control: ١٨٠-١٩٥.default all dial switch goes to the ON position, IP address is ٠, corresponding to Ethernet IP of Mach٣ software: ١٨٠ Refer to the following table settings:

Dial switch setting	Mach٣ software IP
	IP:١٨٠
	IP:١٨١

Dial switch setting	Mach٣ software IP
	IP:١٨٢
	IP:١٨٣
	IP:١٨٤
	IP:١٨٥
	IP:١٨٦
	IP:١٨٧

Dial switch setting	Mach۳ software IP
	IP:۱۸۸
	IP:۱۸۹
	IP:۱۹۰
	IP:۱۹۱
	IP:۱۹۲
	IP:۱۹۳

Dial switch setting	Mach۳ software IP
	IP:١٩٤
	IP:١٩٥

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