

Vitkovets CNC

Комплектуючі системи ЧПУ

Наш сайт: <u>http://cnc.prom.ua/</u>

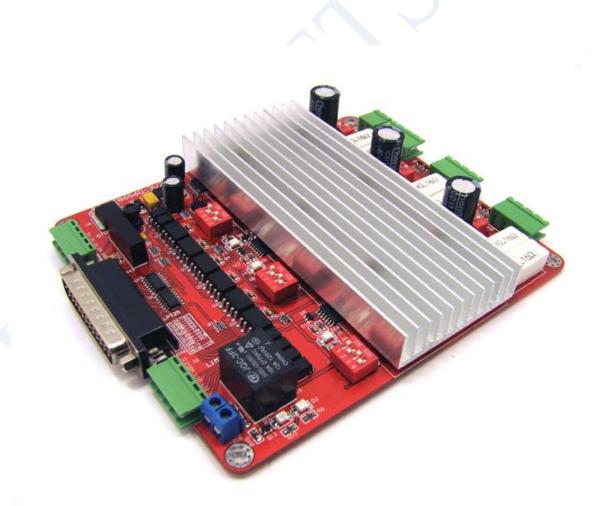
Тел: +380 (096)-665-71-06

+380 (098)-821-25-90

E-mail: <u>cncprom@ukr.net</u>

TB6560-3

3 AXIS DRIVER



1. Overview

The PC Engraving is a Multifunction Engraving Machine collects engrave and Milling. The machine mainly applicable to Processing of a variety of mold like : Embossing plate, Shoe mold, Button mold, zipper-mode, Text die and stamping die design, equipment molds, glass molds and so on. The machine also applies to the advertising industry like: Division licenses, signs, architectural models, badges, badges, nameplates, panels, logo, numbers, signs, craft decoration, furniture decoration and so on. Besides, applies to portrait, landscape, calligraphy lettering, seals and other graphic art sculpture, YIN, YANG Wen-profile, relief production.

Our shop products 3-axis engraving machine drive, using high-performance dedicated micro-step away from the computer control chip TB6560, Open microcomputer control according to user requirements to functional design to the driver board, the composition of the minimum control system. he control panel is suitable for any small and medium-driven two-phase or four-phase hybrid stepper motor. And have current 0.6A, 1.2A, 1.8A, 2.5A 4 stalls adjustable function, support MACH2, MACH3 Series software, support KCAM4 Series software, extensive application and mold machining, engraving and other graphic applications. As a result of new bipolar constant-current chopping technique, high precision, the motor is running, little vibration, low noise, smooth operation, safe and convenient, the vast number of DIY enthusiasts and engraving machine manufacturers product of choice.

2. TB6560AHQ advantage

2.1 At low speed operation System Advantages

Low-speed operating system, is the clock frequency is not high, with small current drive-based systems, such as the speed of a few per minute to 100 turn, the user under the conditions in such applications, such as the use of traditional driving scheme, or a result of integrated chips segmentation is too low, leaving low-speed vibration is too large; or had to choose a high drive segments, so that the cost of an unnecessary increase.

TB6560AHQ driver chip's advantages:

(1). Motor vibration, low noise: Because the chip comes with an optional sub-2,4,16, enough to meet nearly every minute to switch from a few of the applications.

(2). embedded drive less heat: chip built-in cooling large enough alone to support small current-driven thermal requirements.

(3).support a variety of stepper motor selection: customers can choose a hybrid or a slightly larger torque permanent magnet stepper motor, the motor work in the allowed maximum torque of between 30-50%, the electrical costs of almost unchanged; chip

provides multi-range current set-up and current-decay mode, supporting the same power index a variety of different parameters under the stepper motor.

2.2 In high-speed operation System Advantages

High-speed operating system refers to a higher clock frequency, and a large current drive-based systems, such as the speed of close to 1000 per minute to switch, under the conditions of such application-driven programs such as the use of traditional or integrated chip segment is too low due to , leaving the system speed range is too small; or because of the excessive breakdown of the high increase in cost, may also occur due to decline in high-frequency torque caused by vibration and noise.

TB6560AHQ driver chip's advantages:

(1). motor vibration, low noise: As the chip comes with 16 sub-TB6560AHQ chip functionality, to meet nearly every minute to switch from a few to the application requirements, and automatically generates a pure sine wave control current, and other high-integrated chip compared to the same high-speed torque is not only not fall under the contrary, increase; TB6560AHQ chip can withstand the peak due to the driving voltage of 40V, 3.5A peak current for the motor torque in the large, high-speed continuous operation under the offer of the technical support.

(2). supports a variety of stepper motor selection: customers can choose a hybrid moment slightly larger or permanent magnet stepper motor, so that the motor operates at maximum torque of between 30-50%, the electrical costs of almost unchanged; chip provides high-current set-up and multi-range current-decay mode, supporting the same power index a variety of different parameters under the stepper motor.

(3). an embedded easy to drive, small size cooling: large current drive, the chip surface to facilitate cooling radiator outside the company can also be directly connected to the user's original controller, metal shell, the embedded drives small size, easy to heat.

In short, due to a high degree of TB6560AHQ chip, the external circuit is extremely simple, highly reliable, support NEMA23 and some NEMA34 stepper motor tens to nearly turn the wide speed range applications, will enable CNC equipment R & D costs and production costs both declined.

3. TB6560T3V1 Driver Board Introduction

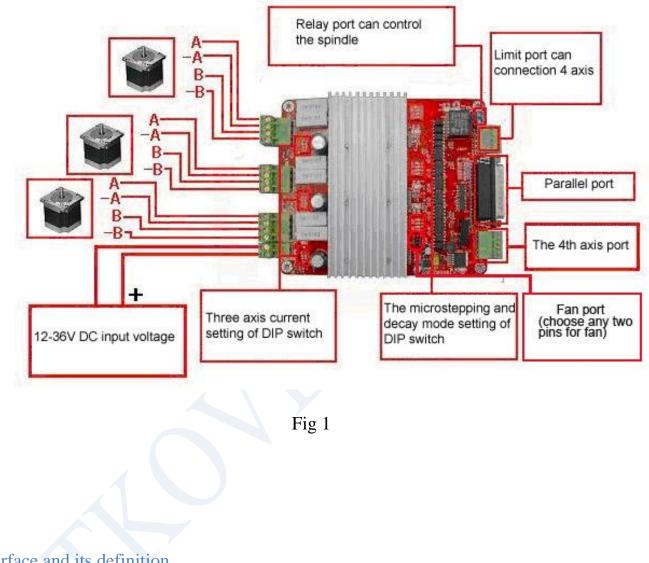
The company introduced TB6560T3V1 is the company's accumulated years of design experience drives that the design made of 3-axis engraving machine drive. Main features except the 6560 itself, the other features are as follows:

1. it can drive three axis, The 4th axis expansion, to facilitate your needs 4-axis

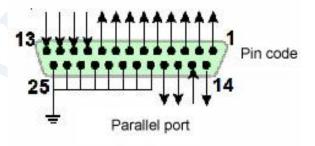
machining when working

- 2. Spindle relay output, easy to use software such as mach3 to control spindle start and stop.
- 3. Semi-flow control functions, and effective to stop the motor when the current is reduced to a minimum.
- 4. Interface with a fan, you can add fan under your choice.
- 5. With 3 wire 0.8-3.5A (peak) rated output of two-phase adjustable-current bipolar stepper motor drive;
- 6. Standard parallel port interface, support for MACH2, KCAM4 series software;
- 7. With optical isolation and DCDC power supply isolation, the full protection of your computer parallel port and equipment;
- 8. with limit switch, can connection 4 aixs limit switch
- 9. Support four microstepping -1, 1/2, 1/8, 1/16;
- 10. 12—36V single switching power supply, microchips to use as a 5V power supply, stable and heat small
- 11. Using RC +7414 automatic semi-flow, the current automatic reduce when stepper motor stop to down the heat

4. TB6560T3V1 Appearance



5. Interface and its definition





25-pin parallel port control is defined as follows:

DB25 control pin (PIN)	The pin of the drive board	Comment
1	EN	All axes enable
2	STEPX	X(First axis) pulse signal
3	DIRX	X(First axis) direction of the signal
4	STEPY	Y(Second axis)pulse signal
5	DIRY	Y(Second axis)direction of the signal
6	STEPZ	Z(Third axis) pulse signal
7	DIRZ	Z (The third axis) direction of the signal
10	LIMIT-1	Limit input interface 1
11	LIMIT-2	Limit input interface 2
12	LIMIT-3	Limit input interface 3
13	LIMIT-4	Limit input interface 4
14	Relay	
15	Blank	
16	STEPB-	B(4th axis) pulse signal
17	DIRB-	B(4th axis) direction of the signal
18-25	GND	

6. The 4th aixs expansion port connection:

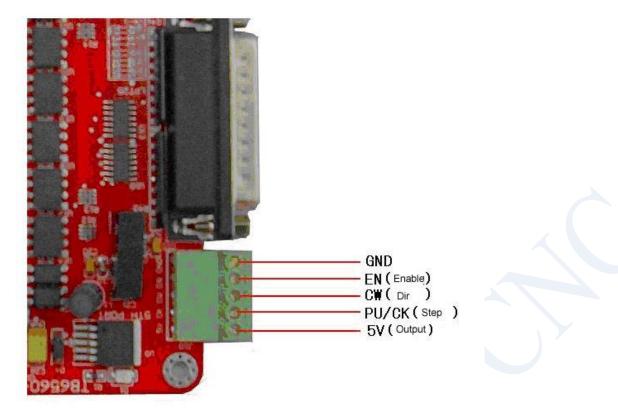


Fig 3

7. The limit switch port connection:

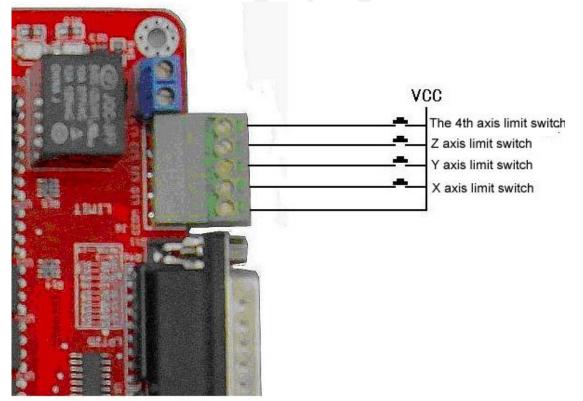
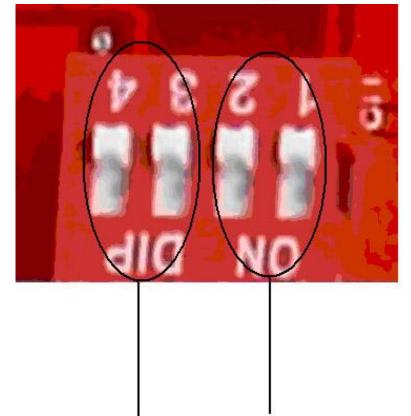


Fig 4

8. The setting of current, microstepping and current-decay mode adjustable





Microstepping setting M1/M2 Decay mode setting D1/D2

8.1、Current-decay mode setting

Pls use 12-24V,>4A switching power supply

Board marked D1D2 (match with DIP swtich 1 and 2) to set the value of switching current-decay

D1/D2 : ON/ON—100% ; ON/OF—25% ;

OF/ON—50%; OF/OF—0%;

D1	D2	Working mode
ON	ON	Fast decay
OF	ON	50% fast decay
ON	OF	25% fast decay
OFF	OFF	Slow decay

Q: The stepper motor driver board the specific role of current-decay What is this?

A: The stepper motor is basically a breakdown of the way current subdivision law, according to the phase current sine wave to be tangent to the current point as subdivision points. In the phase current to reach sub-point control is necessary to control the current decay, otherwise it would be if there will be no way to accurately point overshoot stay in the breakdown of perspective. The motor at different speeds in different choices of decay mode. Fast decay at high speed, low speed when the slow decay. Slow decay at high speed there will be vibrations, high noise problem. Low selection of quick decay can lead to motor weakness and in severe cases closed position. Motor Control IC, the current decay is the target of H-bridge switch the control mode. Slow decay, when the high side pipes closed, fast decay time high or low side tubes are closed. Mixed decay is a first, a rapid decay and then a slow decay, mixing ratio of decay time is also a result of chip and power are not the same as

8.2, microstepping setting

Board marked M1M2(match with DIP swtich 3 and 4) to set the value of switching microstepping resolution

M1	M2	Working mode
OFF	ON	1/16
ON	ON	1/8
ON	OFF	1/2
OFF	OFF	1

Remark:For motor run smoothly, please try to select high segments, such as 1 / 16 microstepping

8.3, current setting



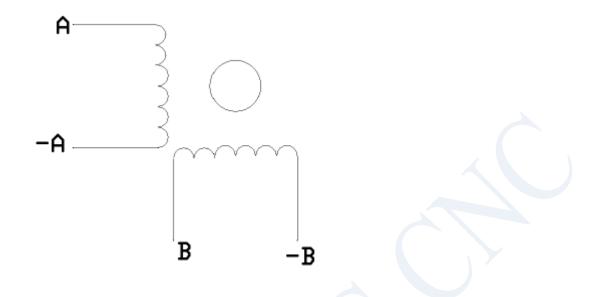
Current setting T1/T2

Board marked T1T2(match with DIP swtich 1 and 2) to set the value of switching current setting

T1	T2	Current
ON	ON	25%*2. 5A
OFF	ON	50%*2. 5A
ON	OFF	75%*2. 5A
OFF	OFF	.5A 100%*2

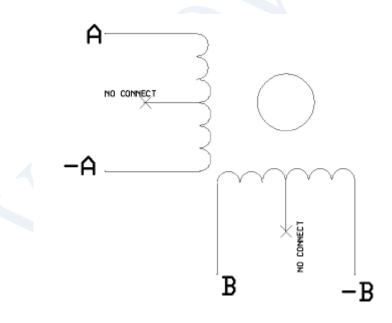
Proposed current as close as possible stepper motor rated current

9. The connection of kinds of stepper motors

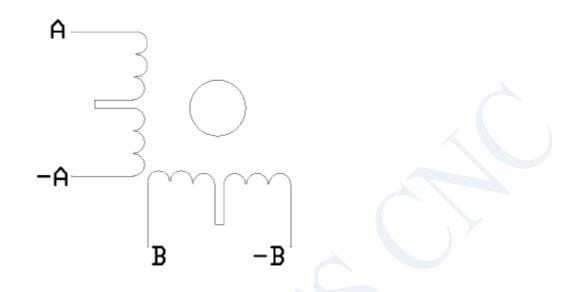


4 lead wires stepper motor:

6 lead wires stepper motor:



8 lead wires stepper motor:



Stepper motor +A -A +B -B connection AP AM BP BM of board port

10. Drive board and motor match:

The driver can drive two or four phase stepper motors,motor drive in order to obtain the most satisfactory results, need to select a reasonable set of supply voltage and current. The supply voltage level of the decision of the high-speed electrical performance, while the current settings determine the motor output torque.

(1) A supply voltage selected:

In general, the more high of the supply voltage, the more torque in high speed, and able to avoid missing step at high speed. On the other hand, the voltage is too high may damage the driver, also big shock in low speed

(2) output current settings:

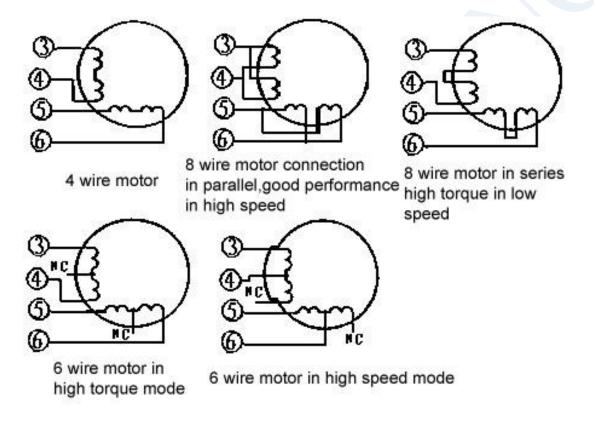
For the same motor, the greater the current set value, the greater the motor output torque, but the high heat for motor and driver. Therefore, the general situation is that the current is set to supply long-term work machine when warm but not too hot when the values.

1)when 4 or 6 lead wires stepper motors in high-speed mode: the output current is set to equal or slightly less than the motor rated current value;

2) when 6 lead wires stepper motor in high torque mode: the output current is set to 70% of motor rated current

3) 8 -wire motor connected in series: the output current is set to 70% of motor rated current

4) 8 -wire motor parallel connection: the output current can be set to 1.4 times more than the motor rated current.



Note: The current setting 15-30 minutes after you run motors, such as the motor temperature is too high, it should reduce the current settings.if after reducing the current value, the motor output torque is not enough, please improve the cooling conditions to ensure that motors and drives are not hot.

11. MACH3 software introduction:

11.1, Mach3 activate:

Current Profiles	Create Profile
Mach3Mill Mach3Turn Plasma	Delete Profile
	Cancel

Fig 5 open MACH3

Shown in Fig5, open the MACH3 software, and then select mach3MILL then OK!

11.2、 Mach3 software setting:

🐉 Mach3 CNC Controller		_ 3 <mark>_</mark> ×
Ele Config Function Cfg's View Wizards Operator PlugIn Control Help		
Program Run Alt-1 MDI Alt2 ToolPath Alt4 Offsets Alt5 Setting	Is Alt6 Diagnostics Alt-7 Mill->G15 G80 G17 G40 G20 G90	G94 G54 G49 G99 G64 G97
	R Zero +0.0000 Scale +1.0000 A Y +0.0000 Scale +1.0000 H Zero +0.0000 Scale +1.0000 H Zero +0.0000 Scale +1.0000 M Zero +0.0000 Scale Scale OFFLINE GOTD Z To Go Machine Soft	ool:0
File: No File Loaded.		egen. Display Jog olpath Mode Follow
Edit G-Code Rewind Ctrl-W Recent File Single BLK Alt-N Close G-Code Reverse Run Load G-Code Block Delete Stop Set Next Line Line O Run From Here Dwell On/Off	Tool Information Feed Rate Tool O Change Dia. +0.0000 Tool 100 H +0.0000 Remember Return Remember Return 6.00 Elapsed 00:00:00 Holder 6.00	Spindle Speed Spindle CW F5 100 SRO % 100 SRO % SRO % 100 SRO % SRO %
Reset Emergency Mode Z inhibit G-Codes M-Codes +0.000	Units/Min 0.00 Units/Rev 0.00	Spindle Speed
History Clear Status:	Profile: Mach3Mill	
🧦 start 🖉 💿 🧑 🧭 🦨 💿 阿里旺旺 - sol 🍃 开发工	.具 🦉 2.JPG - 画图 💦 Mach3 CNC Co 😂 1	< <u> </u> 💮 🗊 😲 07:38

Fig 6 mach3 main interface

Open the MACH3 as Fig6, there are some common buttons, then let us set up

it!

🐇 Mach3 CNC Controller		_ 8 🔀
Eile Config Function Cfg's View Wizards Operator PlugIn Control Help		
Pro Select Native Units Alt2 ToolPath Alt4 Offsets Alt5 Settings	Alt6 Diagnostics Alt-7 Mill->G15 G80 G17 G40 G20 G90 (
Ports and Pins Tool and Aire Onsets Airs Settings	MIII->G15 G60 G17 G40 G20 G90 C	394 G54 G49 G99 G64 G97
Motor Tuning	R Zero Scale	
General Config System Hotkeys		01:0
Homing/Limits	F X +0.0000 +1.0000	ACA426.234
ToolPath	Contra State	
Slave Axis	A Y +0.0000 +1.0000	
Backlash		
- Fixtures	L Zero +0.0000 +1.0000	
ToolTable	H Z +0.0000 +1.0000	
Config Plugins		
Spindle Pulleys Safe Z Setup	M Zero +0.0000 Radius Correct	
Save Settings	E 4 C.OOOO Correct	
	Machine Soft	
	OFFLINE GOTO Z TO GO Coord's Limits	
File: No File Loaded.		gen. Display Jog
	Conversational Gendlinger	lpath Mode Follow
Edit G-Code Rewind Ctrl-W	Tool Information Feed Rate	Contradio Conned
Cycle Start Recent File Single BLK Alt-N		Spindle Speed
<a>Alt-R>	Tool O Change OverRidden FRO %	SRO %
Close G-Code Reverse Run		Spindle CW F5 100
Feed Hold Load G-Code	Dia. +0.0000	
<spc> Block Delete</spc>	H +0.0000	T t Reset
Set Next Line M1 Optional Stop	FRO 6.00	
Stop Line 0 Flood Ctrl-F	Auto Tool Zero	RPM 0
<alt-s> Run From Here Dwell CV Mode</alt-s>	Remember Return Feedrate	1
Dweir CV Mode	6.00	S-ov 0
On/Off	Elapsed UU:UU:UU	
Reset ess Reset Emerg Z Inhibit	Jog ON/OFF Ctrl-Alt-J	Spindle Speed
G-Codes M-Codes +0.000	Units/Rev 0.00	0
History Clear Status:	Profile: Mach3Mill	
	in a contraction million	
🛃 start 🖉 🐵 🧶 🧭 🎸 💊 阿里旺旺 - sol 🍃 开发工具	具 🛛 🙀 2 - 画图 🛛 🦆 Mach3 CNC Co 📁 1	< 🔏 🎯 🗐 😲 07:39
Start Of Bar Start Sound Starts		

Fig 7 mach3 setting menu

Shown in Fig7, open the CONFIG menu under the PORT & PIN menu.

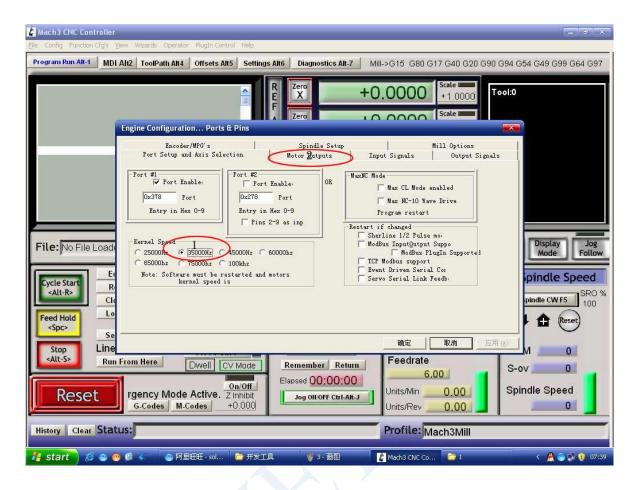


Fig 8 frequency setting

Circle 1 is for setting the fundamental frequency, this parameter affect the motor rotation speed. Set up and select Circle 2, configuration pin definitions

-			6	R Zero		+1.53	Mod	and the second se	1
				F X				Velocity	On
poine	Configurat	ion Ports &	Pins	A Zero I Y		+0.55		Step/Ve	loci ×
		der/MPG's	1	Spi	adle Setup		Mill	1 Options	
	Port Setup	and Aris Sel	lection	Metor	Outputs	Input Sign	als	Output Signals	
Sign	nal	Enabled	Step Pin#	DITPIDE	Dir LowActive	Step Low Ac	Step Port	Dir Port	
XA	ads	4	2	3	×	*	1	1	
YA	ads (4	4	5	×	*	1	1	1
ZA	adis 🔪	4	6	7	1	×	1	1	1
AA	vis	<	16	17	*	*	1	1	
8 A	ads	×	·	0	×	×	0	0	
CA	vis	x	0	0	×	*	0	0	
Spir	nde	×	0	0	*	*	0	0	
				10		E.C. F	A.0.		
						TA	2	取消 应用 0	0

Fig 9 The pin setting of Dir,Step

	ToolPath Alt4	Offsets Alt5 S		agnostics Alt-7		>G15 G80 G	17 G40
			E X	+(0.0000.0	+1.0000	Too
			F Zero	+(0.0000	Scale	
Eng	jine Configuration	Ports & Piris			******	1 41 0000	
	Encoder Port Setup an	/MPG's ad Axis Selection		indle Setup Outputs I:	 nput Signals	Will Options Output S	ignals
	Signal	Enabled	Port #	Pin Number	Active Low	-	
	Digit Trig	X	0	0	*		
	Enable1	4	1	1	4		
	Enable2	*	-0	0			
	Enable3	X	0	0	2		
	Enable4	2	0	0	*		
	Enable5	×	0	0	×		
	Enable6	X	0	0	X		
	Output #1	4	1	14	*	\geq	
	Output #2	8	0	0			
	Output #3	X	0	0	×	E	
	100 C 100	1 2 - 9 , 1, 14,	16, and 17 are ou	tput pins. No other	pin		
	Pin						
	Pin				确定	取清	应用(

Fig 10

Pls amend the software setting according to this board definition.then select the Output Signas as Fig10,1 is Enable and 14 is relay.

11.3、Limit switch mach3 setting:

Click "input signal", setting as Fig11

2	ch3 CNC Contro	ol Application	l.					_ 0 X	
File	Config <u>V</u> iew	Wizards Op	erator Help						
Pro	gram Run Alt-1	MDI Alt2	ToolPath Alt	4 Offsets Alt5	Settings Al	t6			
							MPG MOD	e J	
					R	Mod	e	CAL	
 _							the tree		
Eng	ine Configurat	ion Ports	% Pins					×	
	Enco	der/MPG's	1	Spindl	e Setup	_	1 Mill Optio	ns	
	Port Setup	and Axis Sel	ection	Motor Out	-	Input Signal		ut Signals	
								_	
	Signal	Enabled	Port #	Pin Number	Active Low	Emulated	HotKey	<u> </u>	
	X ++	4	1	10	∢ ₩	X		=	
	X X Home	X	0	0	X	X	0		1.0
	л лоте Ү ++	≪ √	1	11	 √	× · · · · · · · · · · · · · · · · · · ·	0		
1 (Y	 ₩	0	0	× X	×	0 2	λ II	
	Y Home		0	0	×	ž	0		
$ \setminus$	Z ++	4	1	12	4	X	0		
	z	X	0	0	X	X	0		
	Z Home	X	0	0	X	X	0		
	A ++	4	1	13	4	X	0	-	
		D' 10.10	- ·	- 0.1 - 1	• • • • • •		- 1 - 1		
		fins 10-13 an	a 15 are inpu	<u>its. Only these</u>	o pin numbers	may be			
						确定	王 取消	应用 (A)	
F	eed Hold	LUAN C-U	Juae					ata	
	<spc></spc>			Block Dele	te 🔳		Slow Jog R	ate	
		Set Next	Line	M1 Optional S	top 🗧		90.0	%	
	Stop	Line	0	Flood Ctrl	E				
	<alt-s></alt-s>	Run From	Here		· Mode	F	Button Jo	og	
					woue	-		A	
-					_				

Fig 11

11.4、G-Code run:

🛃 Mach3 CNC Controller	
File Config Function Cfg's View Wizards Operator PlugIn Control Help	
Lose Fiel(s)	IIII->G15 G80 G17 G40 G20 G90 G94 G54 G49 G99 G64 G97
F60.000000 G0 X0.000000 Y0.000000 Z0.200000 M3 S60.000000 G4 24H5 G0 X0.000000 Y0.000000 Z0.200000 G4 24H5 G0 X0.000000 Y0.000000 Z0.200000 G1 X1.179950 Y4.004260 Z0.200000 G1 X1.179950 Y4.004260 Z0.100000 G1 X1.179950 Y4.004260 Z.0.100000 G1 X1.17950 Y4.004260 Z.0.100000	0.0000 \$cale +1.0000 Scale +1.0000 Radius Correct Wizards Last Wizard Regen Display
Conve	ersational Committee Follow
Edit G-Code Rewind Ctrl W Single BLK AR-N Single BLK AR-N Close G-Code Reverse Run Load G-Code Block Delete Stop Set Next Line Line 0 Flood Ctrl-F Dwell Dwell CV Mode	Feed Rate Spindle Speed OverRidden FRO % 100 100 Image: Constraint of the symptotic consymptotic constraint of the symptotic constra
G-Codes M-Codes +0.000	Units/Rev0.00
History Clear Status:	Profile: Mach3Mill
	📁 驱动板 🔤 TA驱动 🙆 Macrome < 🍿 13:42

Fig 12 Open G file

When all setting is ok, then open the G-code as Fig 12.

🛃 Mach3 CNC Controller	_ 8 ×
Ejle Config Function Cfg's View Wizards Operator PlugIn Control Help	
Program Run Alt-1 MDI Alt2 ToolPath Alt4 Offsets Alt5 Settings Alt6 Diagnostics Alt-7 Mill->G15 G80 G17 G40 G20 G90 G94 G54 G49	G99 G64 G97
Zero COCOC Scale	
打开	
查找范围(L): Code	
🕞 🖬 ball.tap	
🛄 balld.tap	
🖾 roadrunner.tap	
桌面 园 Shapes.tap	
我的文档 File: No File Loaded. Disp	
lootpath Mod	ie Follow
Edit G-Code 我的电脑 我的电脑	le Speed
Recent File	
Close G-Code 网上邻居 D Spindle C	WF5 SRO %
Load G-Code 文件名 图: rosdrunner _ 打开 @ _	
	Reset
Set Next Line 口以读方式打开 (2) RPM	-
cAlt-Ss D C U	0
Remember Return 6.00 S-ov	0
	need
Jog ON/OFF Ctrl-Ait-J	0
G-Codes M-Codes +0.000 Units/Rev 0.00	
History Clear Status: ReConfiguration Estop. Profile: Mach3Mill	
Widthowin	
🯄 start 🖉 🐵 🌞 🦉 🌾 😂 开发工具 🔡 Mach3 C 😂 1 🦉 7 - 画图 😂 驱动板 🚳 TA驱动 🧔 Macrome	< 😲 13:42

Fig 13 Open the MACH3 with G-code self test.

gram Run Alt-1	MDI Alt2 ToolPath A	tt4 Offsets Alt5 Setti	ngs ANG Diagnostics Alt-	(a)	MPG MODE
		4	R Zero E X F Zero L Zero H Z OFFLINE GCTD Z T	+0.00(+0.00(+0.00(+0.00(+0.00(Mode Velocity Only Step/Velocity +8 % Single Step Mutti-Step MPG Feedrate 100.00
vcle Start <alt-r> eed Hold <stop <alt-s> Rese story Clear</alt-s></stop </alt-r>	Edit G-Code Recent File Close G-Code Load G-Code Set Next Line Line 0 Run From Here		Dia. +0.0000 H +0.0000	Tool FRO Fundamental FRO Units/M Units/R	Shuttle Mode Step Cycle Jog Step 0.0010 Jog Mode Cont Step MPG Att A B C 2764 Asis A B C 2764

Fig 14

Open the G code, you can see the red RESET flashing, you can use mouse click the RESET to stop the flashing, then you can press circle 2 position CYCLESTART run.

Program Run AH-1 MD1 AI(2 TooPath AH4 Offsets AH5 1	Settings Alts Diagnostics Alt-7	, MPG MODE
	R R Zero L Zero H Zero +0.000 L Zero +0.000 C H Zero +0.000 C L Zero +0.000 C H Zero +0.000 C H Zero +0.000 C H Zero +0.000 C H Zero +0.000 C H Zero +0.000 C H Zero +0.000 C H Zero +0.000 C H Zero +0.000 C H Zero +0.000 C H Zero +0.000 C H Zero +0.000 C H Zero +0.000 C H Zero +0.000 C H Zero +0.000 C H Zero +0.000 C H Zero +0.000 C Zero +0.000 Zero +0.000 C Zero +0.000 C Zero +0.000 C Zero +0.000 C Zero +0.000 C Zero +0.000 C Zero +0.000 C Zero +0.000 C Zero +0.000 C Zero +0.000 C Zero +0.000 C Zero +0.000 C Zero +0.000 C Zero +0.000 C Zero +0.000 -0.0000 -0.000 -0.0000 -0.000 -0.000	Mode CAL Velocity Dity Step/velocity +5 X
File: No File Loaded.	E 4 +0.000	MPG Feedrate 100.00 swatte Mode Step Cycle Jog Step 0.0010
Edit G-Code Rewind Ctrl-W Cycle Start Recent File Single GLK Arc.N Close G-Code Reverse Run Reverse Run Feed Hold Load G-Code Block Delete Stop Line M optional Stop Stop Line Flood Ctrl-F Run From Here Dwell CV/MO	Tool Information Tool O Charge Dia. +0.0000 H +0.0000 Auto Tool Zero Units/M	Jeg Made Mick Aus Mick Aus Mic
Reset G.Codes M.Codes	Elaosed 00:00:00 Jog ONOFF Ctri-AK-J Zinh +0.	

Also if you need to manual, then you can press TAB key to open the manual control panel

Fig 15