

MCC3721H User's Quick Setup V1.02

WUHAN AU3TECH TRADING CO., LTD

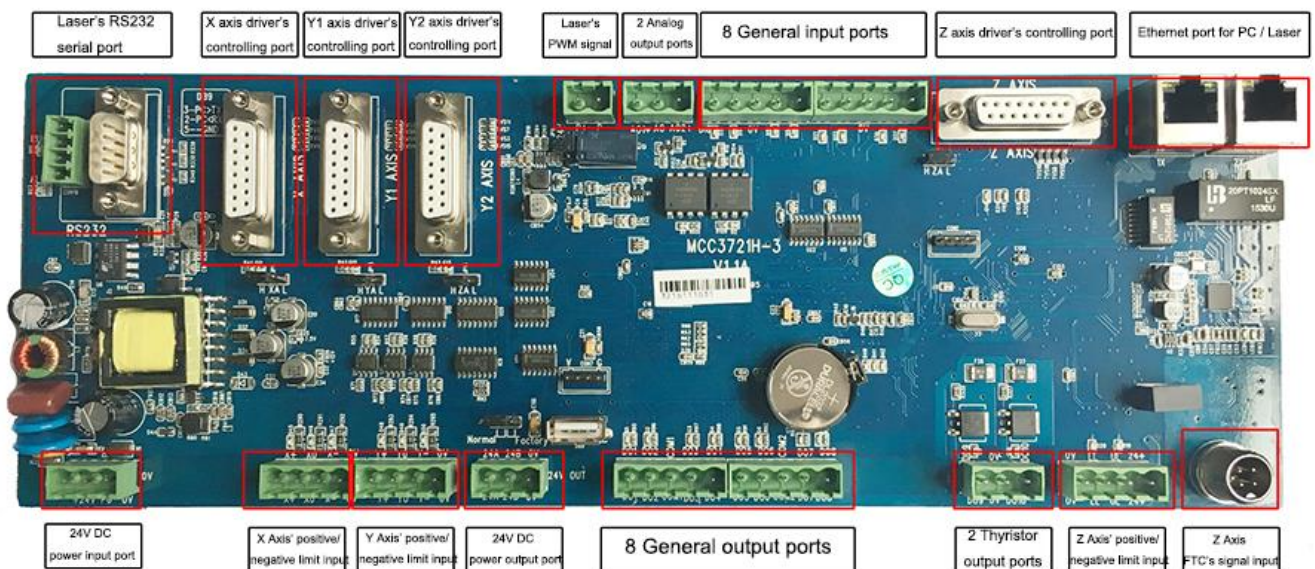
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1. Product Overview

SC1000 is a new generation CNC system software which is specially developed towards fiber laser cutting field. It has enough external devices and powerful function.

2. Wiring diagram of Motion control card MCC3721H.



The explanations of each port:

ports		function	remark
Power input	+24V	DC24V input + end	Recommend to use DC 24V/10A power supply
	PG	Protective ground	
	0V	DC input - end, power GND	
X/Y Axis' limit input	X+	X Axis' positive limit input, special signal, low-level propagation is effective.	X Axis' limit input
	X0	X Axis' origin signal, special signal, low-level propagation is effective.	
	X-	X Axis' negative limit input, special signal, low-level propagation is effective.	
	0V	GND, X Axis' limit signal COM port	

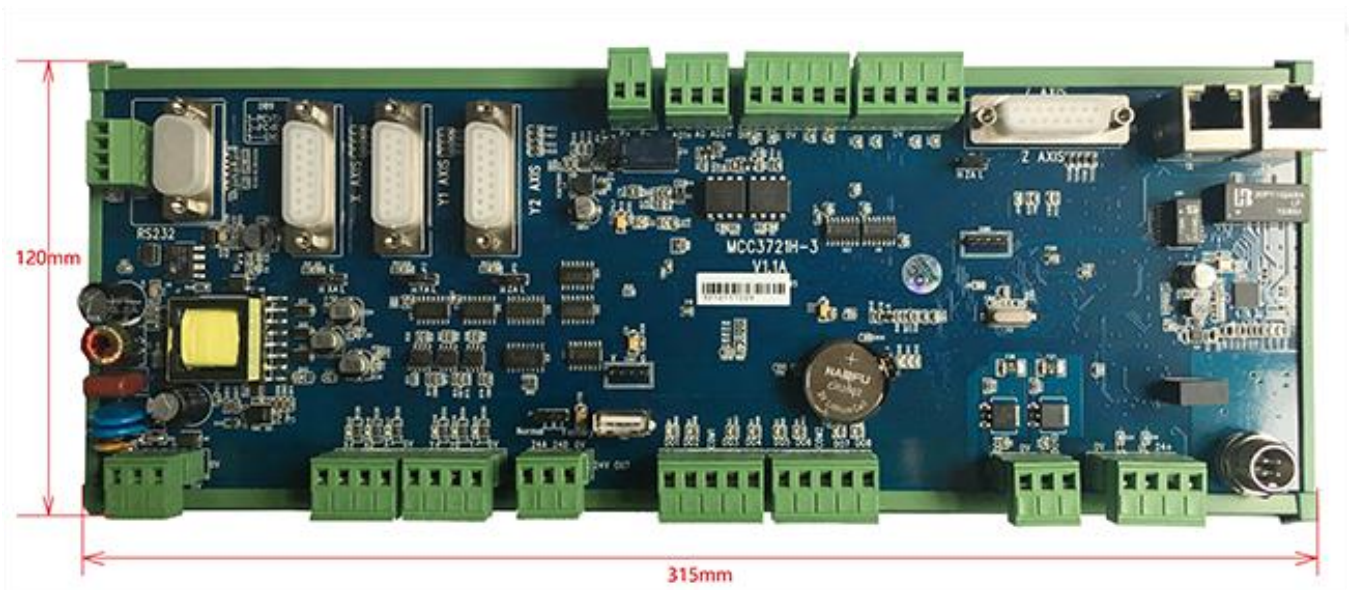
	Y+	Y Axis' positive limit input, special signal, low-level propagation is effective.	Y Axis' limit input
	Y0	Y Axis' origin signal, special signal, low-level propagation is effective.	
	Y-	Y Axis' negative limit input, special signal, low-level propagation is effective.	
	0V	GND, Y Axis' limit signal COM port	
Power output	24A	The 1st DC24V output + end	It can supply standard TTL for Axis' limit switch/general output port.
	24B	The 2nd DC24V output + end	
	0V	DC24V output GND	
X/Y Axis' controlling ports	X	X Axis motor's controlling signal	DB15 female
	Y1	Y1 Axis motor's controlling signal	DB15 female
	Y2	Y2 Axis motor's controlling signal	If Y Axis is set up as dual - drive mode, it is Y2 Axis; if Y Axis is set up as single drive mode, it is Y1 Axis' controlling port(standby).
General custom output	DO1	The 1st general output port	The function of output port can be configured on software. All output ports are passive. DO1/DO2/DO3/DO4 output voltage is the same as COM1, while DO5/DO6/DO7/DO8 output voltage is the same as COM2.
	DO2	The 2nd general output port	
	COM1	General output COM port	
	DO3	The 3rd general output port	
	DO4	The 3rd general output port	
	DO5	The 5th general output port	
	DO6	The 6th general output port	
	COM2	General output COM port	
	DO7	The 7th general output port	
Thyristor output	DO9	The 1st thyristor output port	DC 24V/ 1A
	0V	Thyristor output COM port	
	DO10	The 2nd thyristor output port	
PWM output	P+	PWM signal output + end	PWM TTL: 24V/5, It can be configured by the jumper nearby.
	p-	PWM signal output - end	
Analog output	AO1+	The 1st analog output port+ end	The voltage of analog output is between 0V and 10V, which can be configured by software.
	AG	Analog output GND	
	AO2+	The 2nd analog output port + end	
General custom input	DI1	The 1st general input port, low-level propagation is effective(Default).	
	DI2	The 2nd general input port, low-level propagation is effective(Default).	
	DI3	The 3rd general input port, low-level propagation is effective(Default).	
	DI4	The 4th general input port, low-level propagation is effective(Default).	
	DI5	The 5th general input port, low-level propagation is effective(Default).	

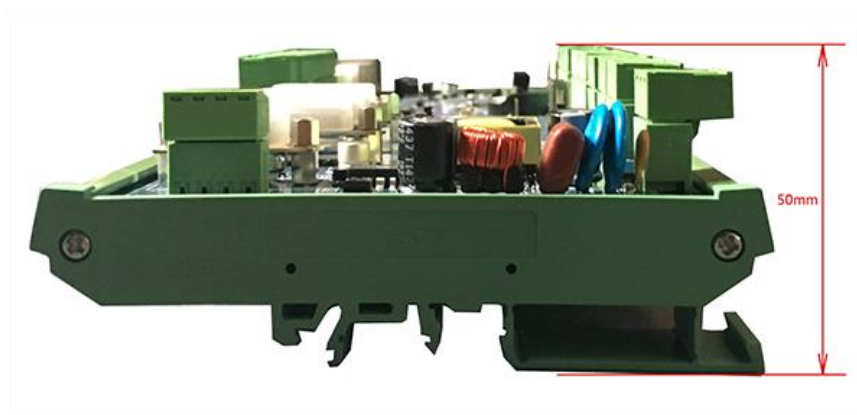
	DI6	The 6th general input port, low-level propagation is effective(Default).	
	DI7	The 7th general input port, low-level propagation is effective(Default).	
	DI8	The 8th general input port, low-level propagation is effective(Default).	
	0V	Signal input COM port	
Ethernet	1X	The 1st industrial Ethernet interface	These two ports can be arbitrarily configured
	2X	The 2nd industrial Ethernet interface	
General serial port	RS232	DB9, RS232 serial port	It can butt-joint with laser
	CON16	Four-pin terminal	The same interface with DB9 port
FTC signal	Con5	Four-pin aerospace plug, the FTC's capacitive signal interface of Z axis	Connected with amplifier
Z Axis' controlling port	Z AXIS	Z Axis motor's controlling signal	
Z Axis' limit input	LL	Z Axis' negative limit input	
	UL	Z Axis' positive limit input	
	24V+	Powering port for Z axis' limit sensor	
	0V	GND, Z Axis' limit signal COM port	
USB	U69	Wireless remoter's USB interface	

3. Installation and wiring of CNC system

3.1 Installation dimension.

SC1000 CNC system supports 35mm's DIN-Rail Mounting, 315mm (length) x 120mm(wide).

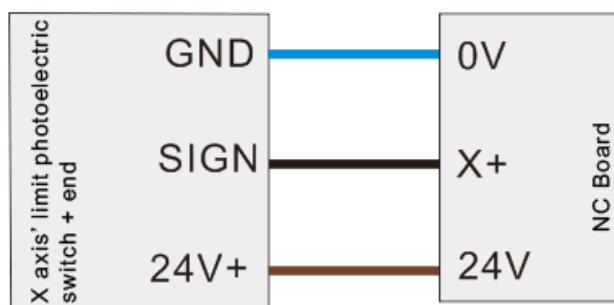




3.2 Installation of limit port or other IO port.

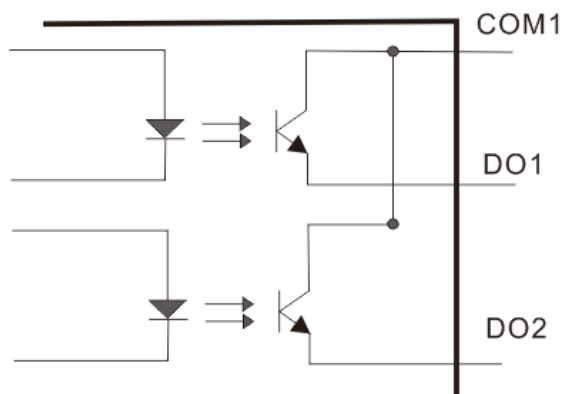
Limit input.

SC1000 CNC system software provides three axis' limit input ports, which are X axis, Y axis, Z axis. Take X axis as an example, installing axis' limit signal. NPN photoelectric switch's typical wiring shows as below:



General custom output port:

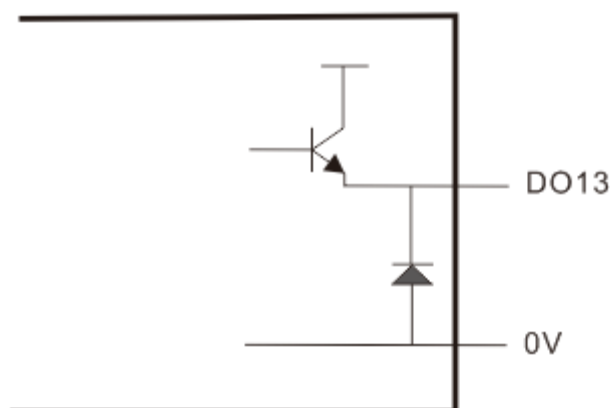
SC1000 CNC system software provides 8 kinds of general custom output ports, and the function of each output port can be arbitrarily configured by software. The output port is passive output port. The output mode shows as below:



Thyristor output port:

SC1000 CNC system software provides 2 kinds of thyristor output ports, and the function of output port can be arbitrarily configured by software. The output port is active output port, and the drive capability in maximum is 24V/1A, which can directly drive 24V DC solenoid valve.

The output mode shows as below:



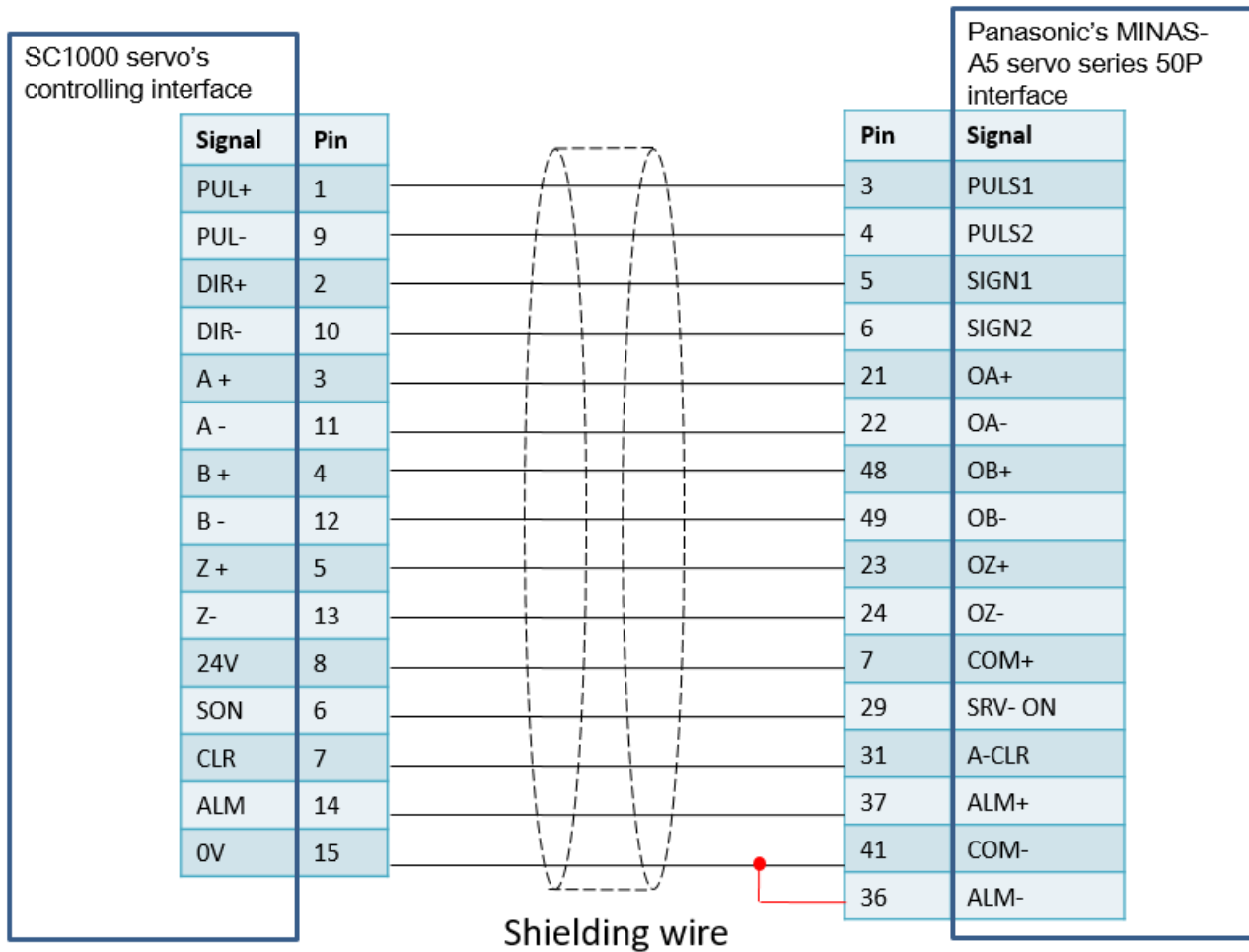
3.3 Connecting X/Y axis' servo driver

SC1000 CNC system software provides 4 kinds of servo control interfaces, which are X axis, Y1 axis, Y2 axis, Z axis. The connecting type is DB15 female. When the system is dual - drive mode, Y1 axis and Y2 axis separately controls Y axis' two kinds of servo drivers. And when it's single drive mode, Y1 axis controls Y axis' servo driver. The definition of these four servo control interfaces are the same, they all adapt the position loop control mode. The definition of each pin shows as below:

Axis' servo control interface (DB15 female)				
Pin	Signal		Pin	Signal
1	PUL+		9	PUL-
2	DIR+		10	DIR-
3	A+		11	A-
4	B+		12	B-
5	Z+		13	Z-
6	SON		14	ALM
7	CLR		15	0V
8	24V			

SC1000 CNC system software adapts “pulse + direction signal” to control servo driver, which can support all kinds of servo driver such as “Yaskawa”、“Panasonic”、“Fuji”、“Delta”、“Kymmene”、“Adtech” and so on. The wiring mode shows as below:

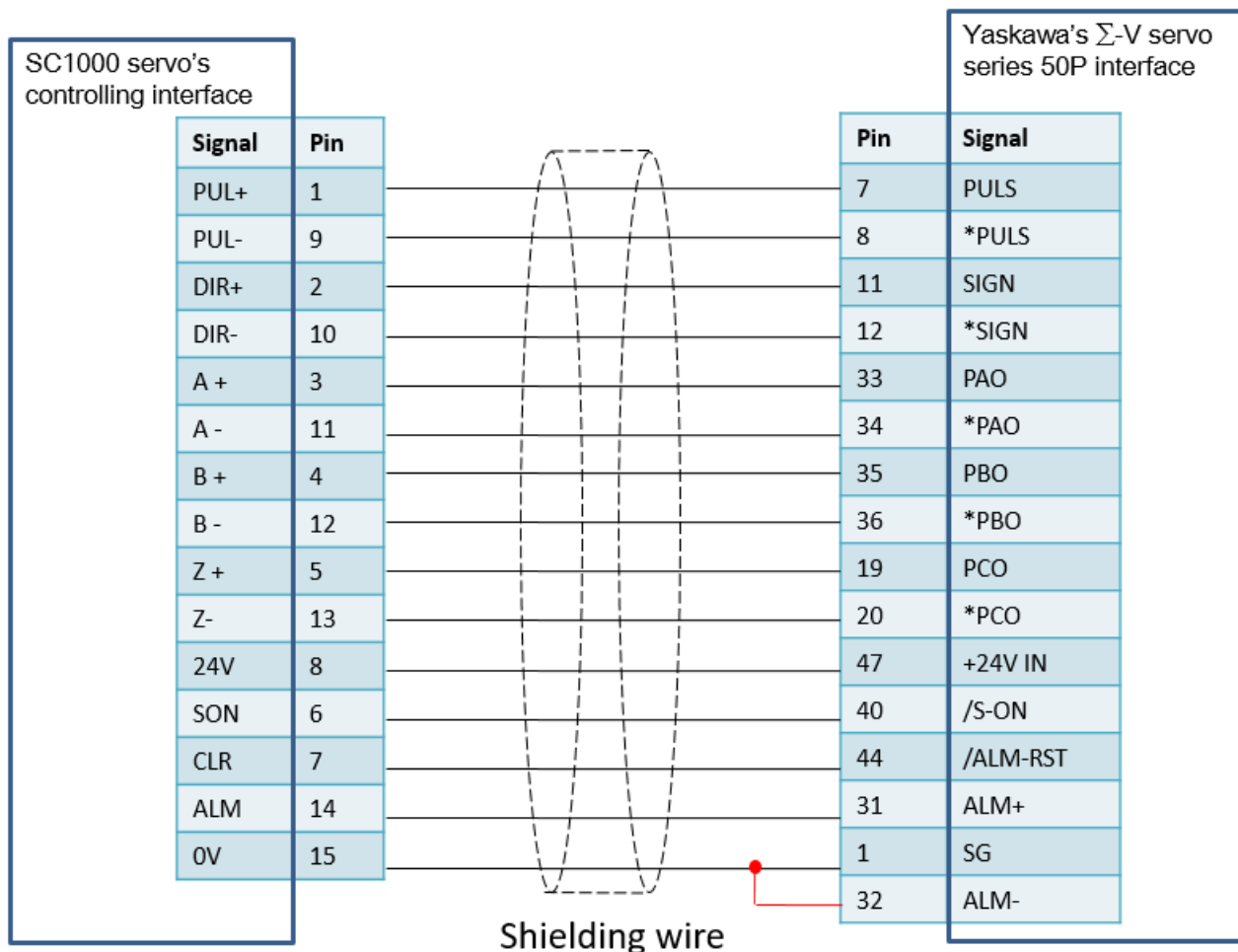
Panasonic’ s MINAS-A5 servo series low-speed pulse wiring diagram shows as below.



The basic parameter settings of Panasonic's A5 servo series shows as below.

Parameter	Set value	Meaning
PR001	0	Set servo control mode as position mode
PR007	3	Set as "Pulse + Direction" mode
PR005	0	Set pulse frequency in maximum

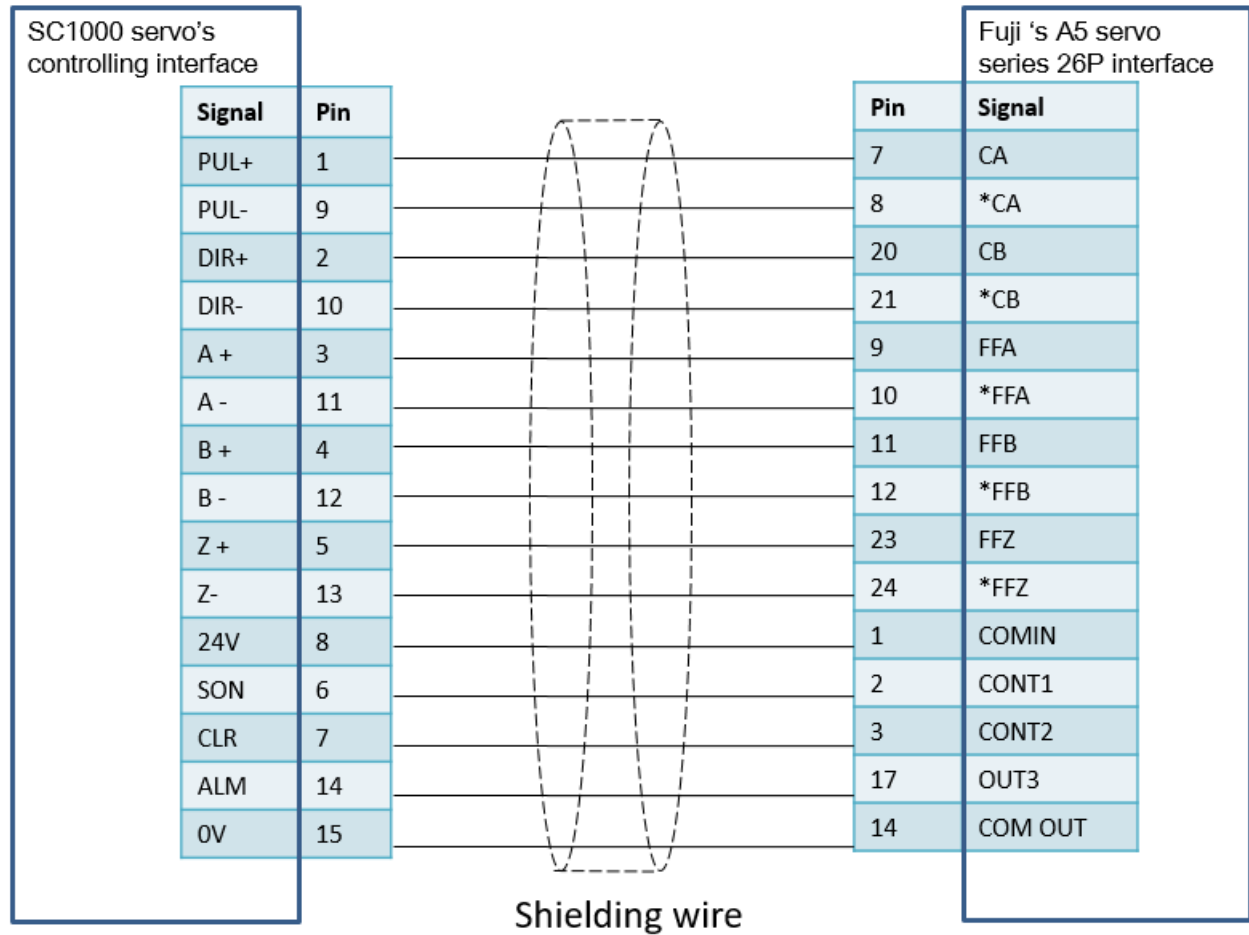
Yaskawa's Σ -V servo series wiring diagram shows as below:



The basic parameter settings of Yaskawa's Σ -V servo series shows as below.

Parameter	Set value	Meaning
Pn000	001X	Set servo control mode as position mode
Pn00B	default	When it has single-phase power input, set it as 0010
Pn200	2000H	Choose the pulse mode
Pn50A	8100	Clockwise drivable
Pn50B	6548	Un-clockwise drivable

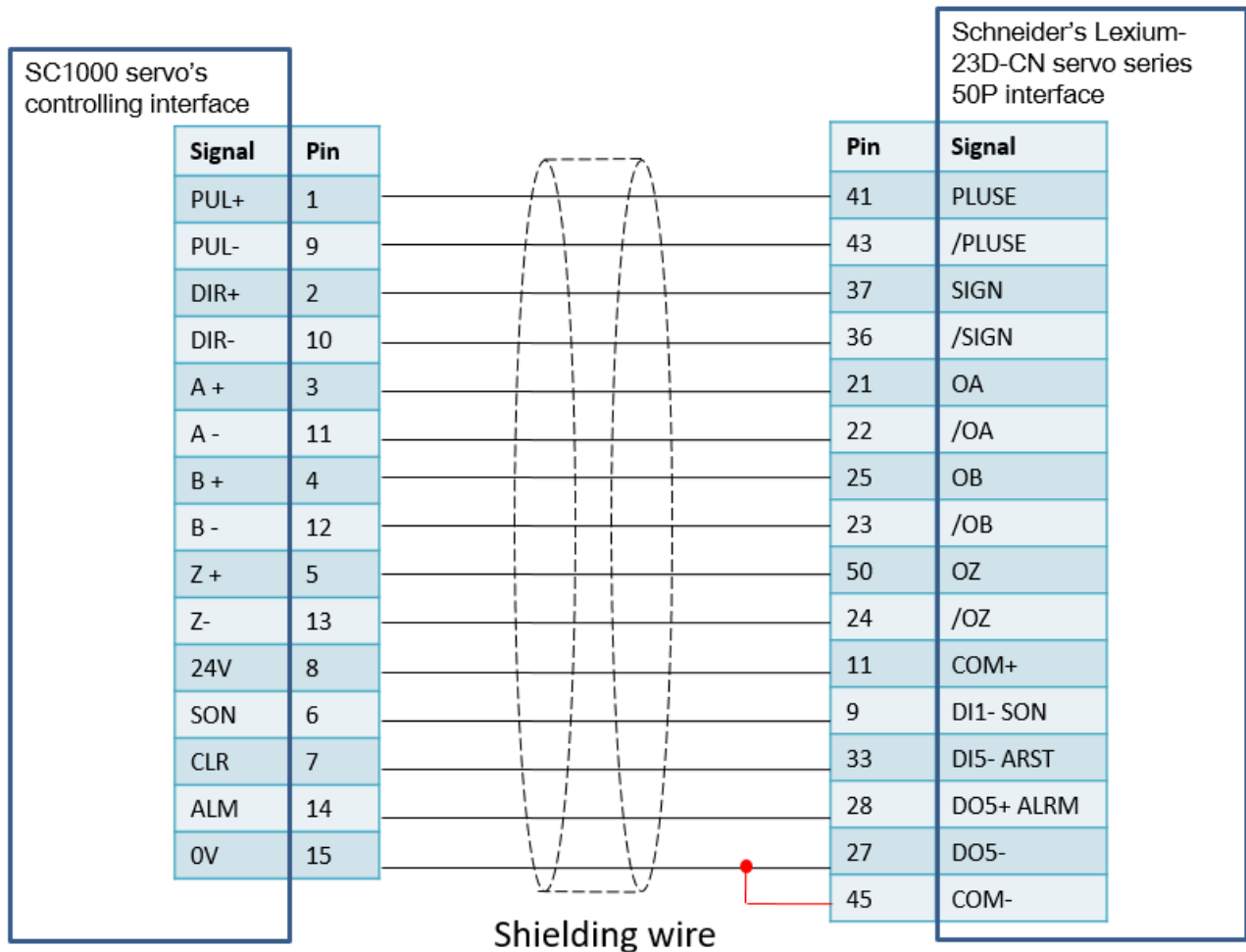
Fuji's A5 servo series wiring diagram shows as below:



The basic parameter settings of Fuji's A5 servo series shows as below.

Parameter	Set value	Meaning
PA-101	0	Set servo control mode as position mode
PA-103	0	Set as "Pulse + Direction" mode

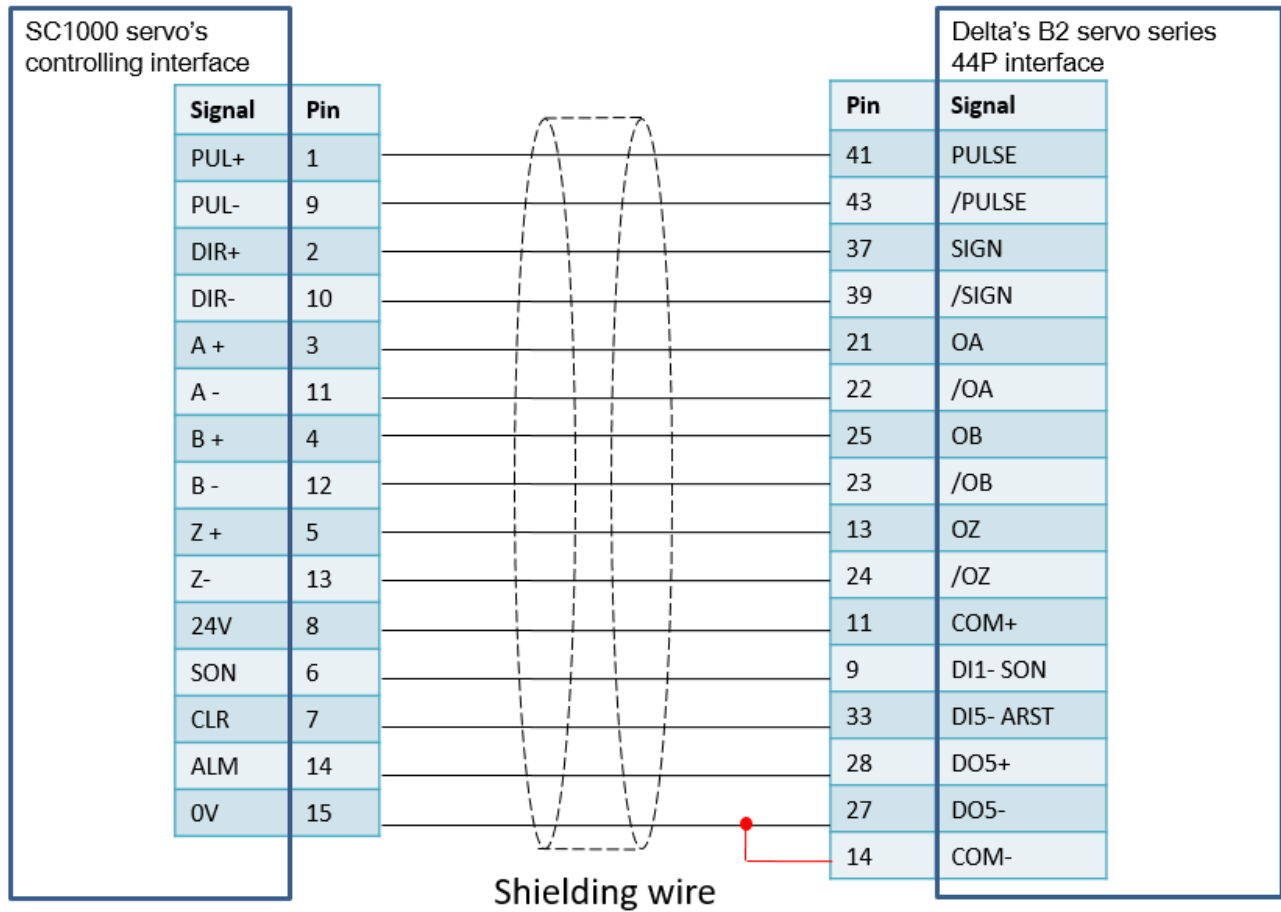
Schneider's Lexium-23D-CN servo series wiring diagram shows as below:



The basic parameter settings of Schneider's Lexium-23D-CN servo series shows as below.

Parameter	Set value	Meaning
P1-00	0002	Choose the pulse mode
P1-01	0000	Position mode
P2-00	Factory default :35	Position controls proportional gain and adjust accordingly.
P2-10	101	Set DI1 port as servo on
P2-14	102	Set DI5 port as alarm clear
P2-15	0000	Set DI6 port as null
P2-16	0000	Set DI7port as null
P2-17	0000	Set DI8 port as null
P2-22	0007	Set DO5 port as servo alarm
P2-68	0001	When L1/L2 and SON are valid at the same time, motor works. (If not set this parameter, motor can't work.)

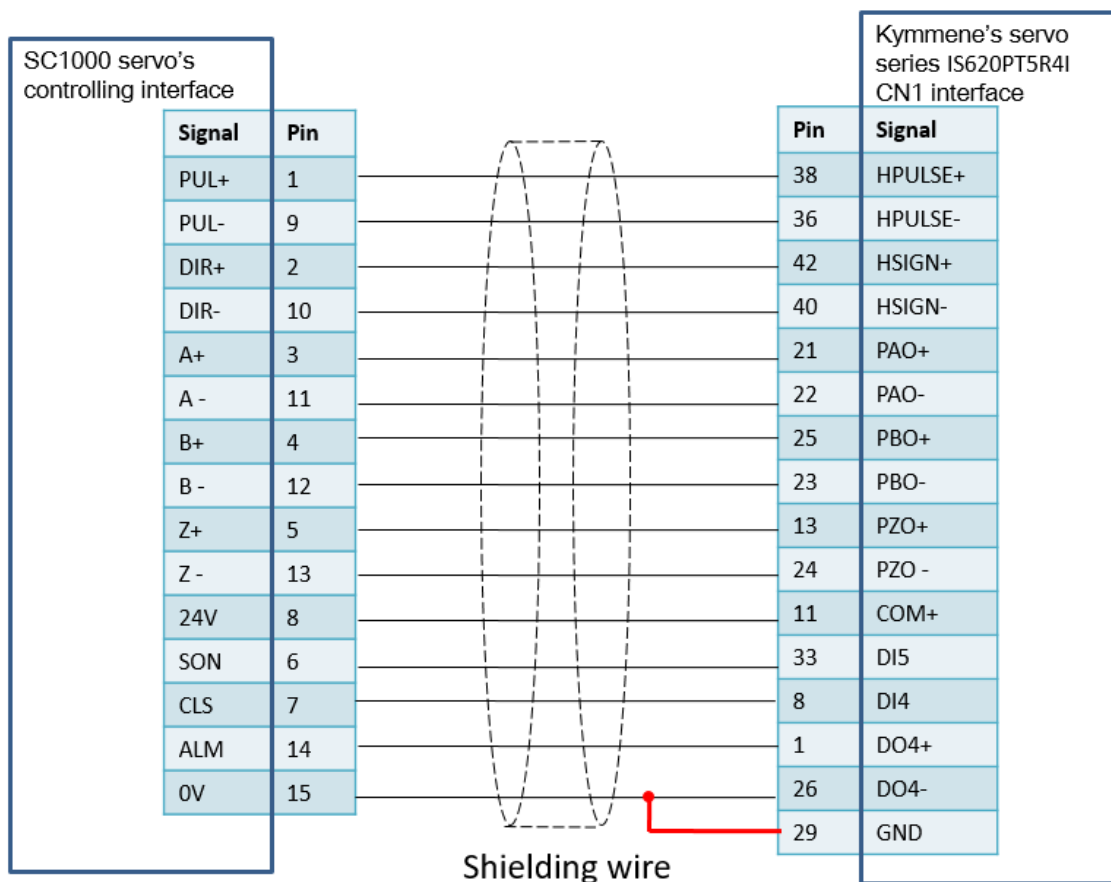
Delta ASDA –B2 series wiring diagram shows as below:



The basic parameter settings of Delta ASDA –B2 servo series shows as below.

Parameter	Set value	Meaning
P1-01	0	Position mode
P2-00	Factory default :35	Position controls proportional gain and adjust accordingly.
P2-10	101	Set DI1 port as servo on, logic is normally open.
P2-14	102	Set DI5 port as alarm clear, logic is normally open.
P2-15	007	Set DI6 port as null
P2-16	007	Set DI7 port as null
P2-17	007	Set DI8 port as null
P2-22	007	Set DO5 port as servo alarm, logic is normally closed.

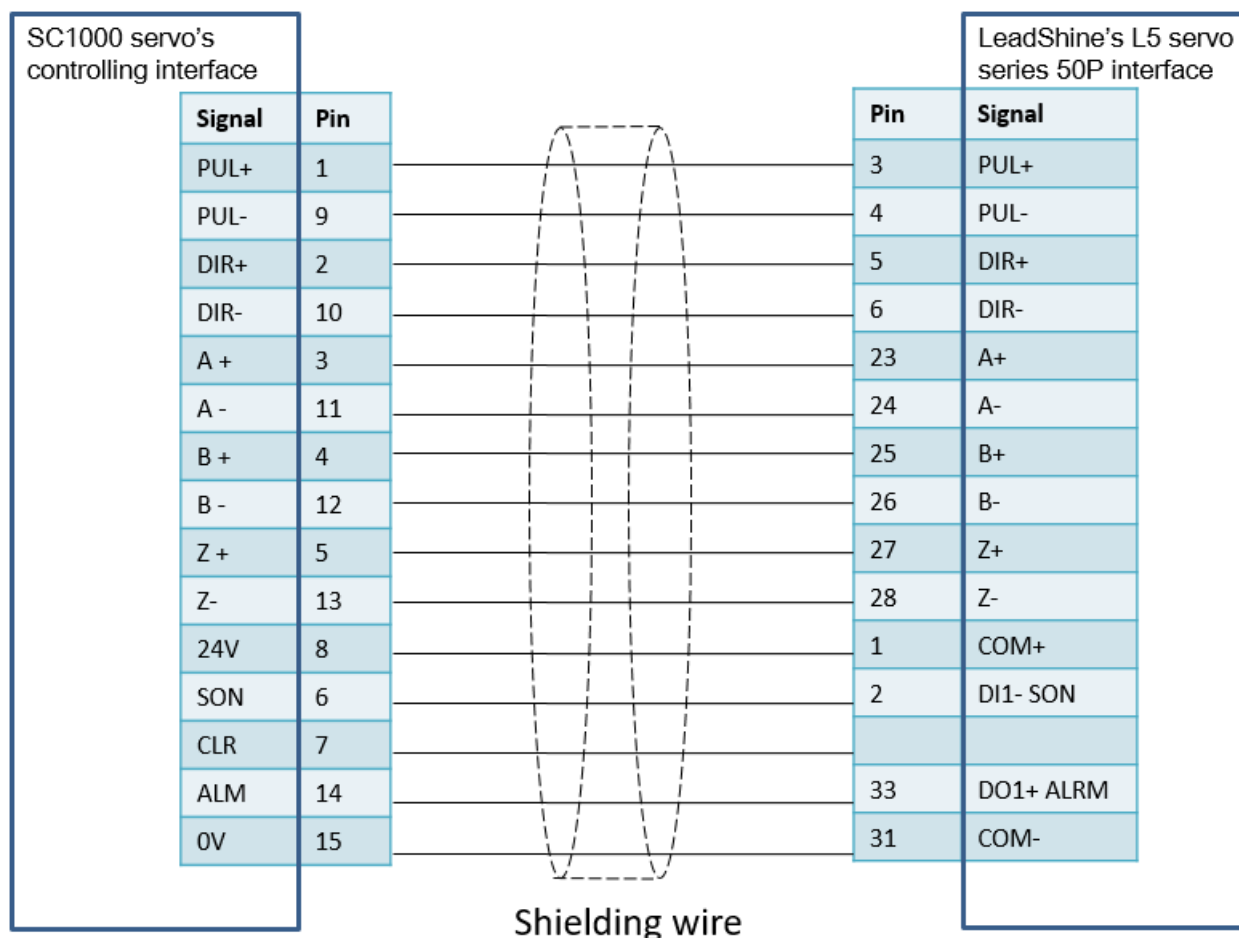
Kymmene's IS620P series wiring diagram shows as below:



The basic parameter settings of Kymmene's IS620P servo series shows as below:

Parameter	Set value	Meaning
H02-00	1—Position mode	Position mode
H02-02	0—Clockwise mode	Choose the rotation direction
H02-03	0—Clockwise mode	Pulse's feedback direction selection.
H03-08	2—Fault resetting	DI4 port definition selection
H03-10	1—Servo on	DI5 port definition selection
H04-07	1—Output high-level propagation when it's valid.	DO4 logical TTL selection
H05-00	0—Pulse command	The source of position command.
H05-01	1—High-speed pulse	High or low speed pulse position command selection.
H09-00	0- Auto-adjustment is invalid, manual operation can adjust gain parameter	Auto-adjustment mode selection

The basic parameter settings of LeadShine L5 servo series:

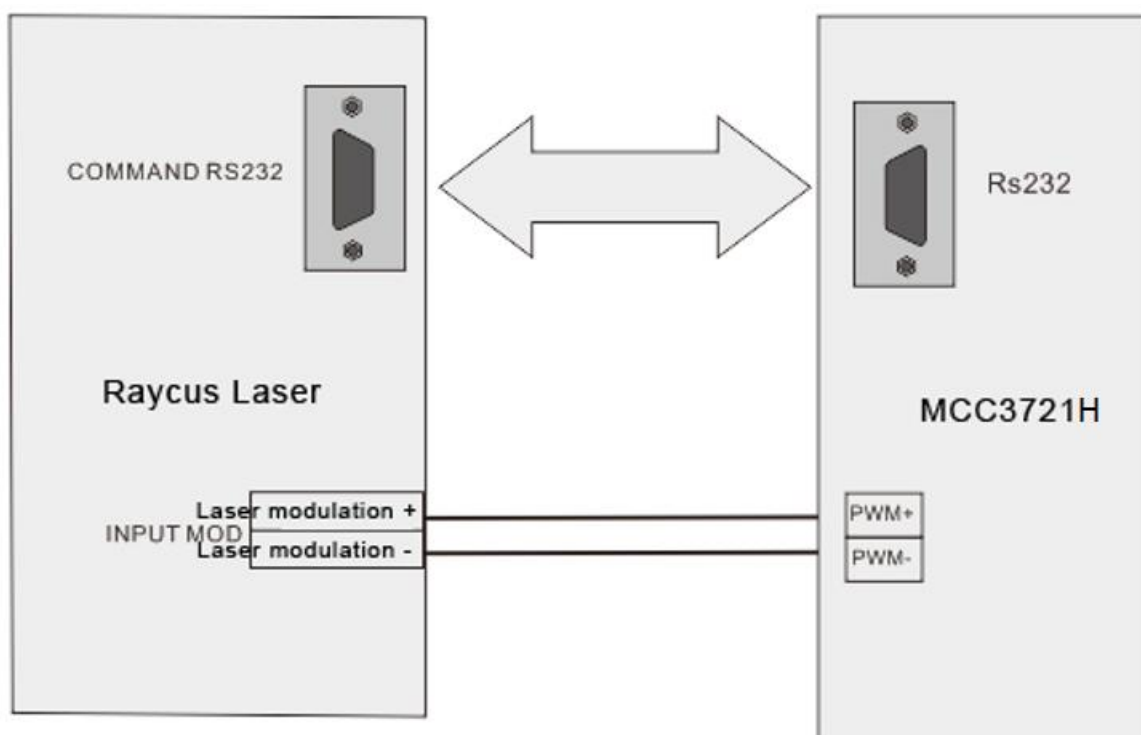


The basic parameter settings of LeadShine L5 servo series shows as below

Parameter	Set value	Meaning
PR001	0000	Position mode
PR003	Factory default : 13	Servo rigidity, adjust according to the reality, normally 17 and above.
PR007	3	Set as "Pulse + Direction" mode

3.4 Laser connecting.

SC1000 CNC system software can connect with laser through serial port/internet port, or through I/O port. It can directly connect with Raycus laser through serial port, connect IPG's laser through serial port/internet port(recommend to choose internet port).



Note: please use the RS232 cable provided by Raycus.

The wiring diagram between MaxPhotonics laser and motion control card:

MaxPhotonics laser		MCC3721H motion control card	
Num	Name	Name	Meaning
1	Servo on +	DO10	24V active output port
2	Servo on -	0V	GND
3	0-10V+	AO1	Analog input
4	0-10V-	AG	Analog GND
5	Laser modulation +	P+	PWM+
6	Laser modulation -	P-	PWM-

Note: For other lasers like Super, Feibo, Cas and so on, please reference Maxphotronics laser.

3.5 Connecting the signal amplifier for controlling Z axis by capacitance.

Motion control card-MCC3721H has integrated with the function of Z axis's focus tracking controller. Please connect the motion control card and amplifier with the signal cable in 10m or 15m provided by Au3tech.(Interface type: M12-4 aerospace plug)

3.6 Connecting computer.

SC1000 CNC system software can directly connect with PC through any internet port, which is much more convenient and efficient.

3.7 Installing power

When all the external wirings are finished, it needs to provide 24V power for CNC board(suggest to use 24V/10A power). As for the wiring mode, you can take the diagram for reference.

All the wiring connecting parts are finished, only these above nothing more.

4.Cutting machine parameters

4.1 Software setup

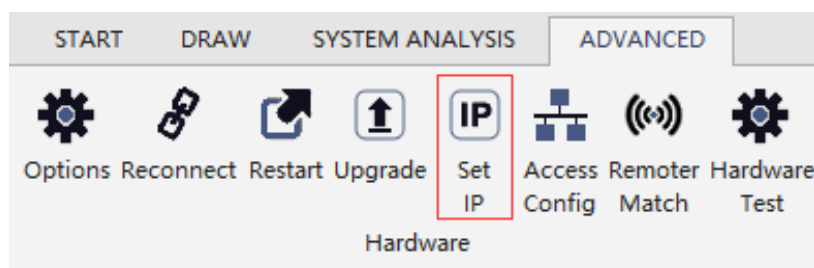
SC1000 software can be downloaded from the website www.au3tech.com. Unzip it and run "MainApp.exe", the software can be opened.

4.2 Communication setting

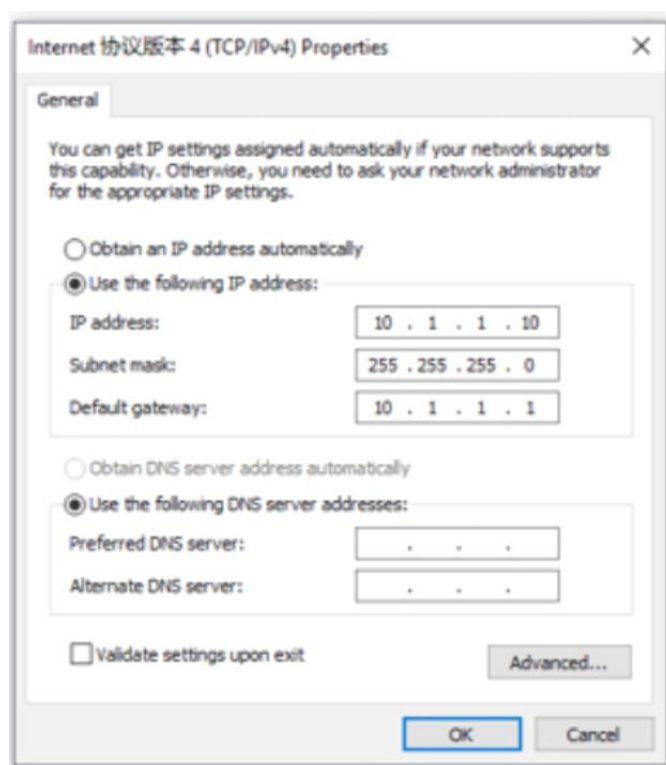
SC1000 is designed with industry Ethernet infrastructure. FTC is connected to MCC3721H with Ethernet cable, so do PC connecting to MCC3721H.

1、IP auto setting

IP configuration : click "ADVANCED"- "Set IP".



Note: User can set the IP address manually: **10.1.1.10**; Subnet mask: **255.255.255.0**; default gateway: **10.1.1.1**



Note: The IP address of FTC and SC1000 software have been in factory settings, users don't need to do any changes.

2、 After IP has been configured on PC, the network shall be working.

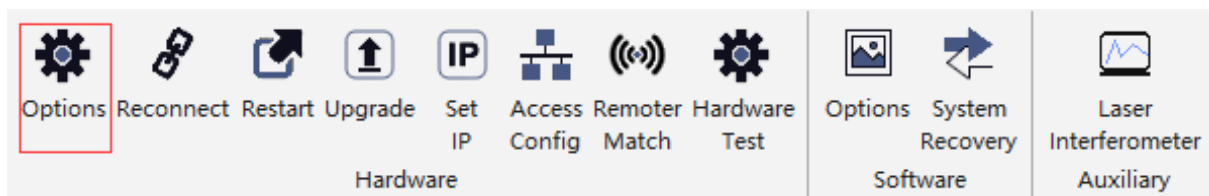
Reconnect Hardware is not connected, please check the controller

Note: If it is not working, please check whether the green light of the Ethernet port is twinkling or not to make sure the Ethernet cable is working.

4.3 Parameter setting.

We need to set up the parameter for X/Y axis, laser, height sensor, assistance gas etc.

Open the software, click "ADVANCED" - "Options", enter the password: "0000".



4.3.1 X/Y Axis parameter

Please setup the basic parameters of each axis and "Back to Origin Point".

- Axis - Laser - FTC - Gas - IO - Advanced	Axis parameters X Axis <table border="1"> <tr><td>Pulse Equivalent (pul...</td><td>1000.0000</td></tr> <tr><td>Max Length (mm)</td><td>1500.00</td></tr> <tr><td>Limit Switch Type</td><td>Normal Open</td></tr> <tr><td>☐ Encode Reverse</td><td></td></tr> </table> Y Axis <table border="1"> <tr><td>☒ Double Drive</td><td></td></tr> <tr><td>Pulse Equivalent (pul...</td><td>1000.0000</td></tr> <tr><td>Max Length (mm)</td><td>3000.00</td></tr> <tr><td>Limit Switch Type</td><td>Normal Open</td></tr> <tr><td>☐ Encoder Reverse</td><td></td></tr> </table> Misc <table border="1"> <tr><td>☒ Double Drive Err...</td><td></td></tr> <tr><td>Double Drive Error T...</td><td>100</td></tr> <tr><td>Double Drive Error K...</td><td>100</td></tr> <tr><td>☒ Encoder 4 multipl...</td><td></td></tr> </table>	Pulse Equivalent (pul...	1000.0000	Max Length (mm)	1500.00	Limit Switch Type	Normal Open	☐ Encode Reverse		☒ Double Drive		Pulse Equivalent (pul...	1000.0000	Max Length (mm)	3000.00	Limit Switch Type	Normal Open	☐ Encoder Reverse		☒ Double Drive Err...		Double Drive Error T...	100	Double Drive Error K...	100	☒ Encoder 4 multipl...		Correction parameters ☐ Enable vertic... ☒ Corrected the Y ax... ☐ Corrected the X ax... - dry running a square, input: <table border="1"> <tr><td>Square Leng</td><td></td><td>mm</td></tr> <tr><td>Measureme</td><td></td><td>mm</td></tr> </table> - Pitch compensate ☒ No compens... <table border="1"> <tr><td>X</td><td>0.000</td><td>mm</td></tr> <tr><td>Y</td><td>0.000</td><td>mm</td></tr> </table> ☐ Only compens...y ☐ Complete pit... Import compe...	Square Leng		mm	Measureme		mm	X	0.000	mm	Y	0.000	mm	Go Origin Parameters Go Origin <table border="1"> <tr><td>☐ Use Z Phase Signal</td><td></td></tr> <tr><td>Sample Signal Type</td><td>Origin</td></tr> <tr><td>Limit Switch Type</td><td>Normal Open</td></tr> <tr><td>Fast Speed (mm/s)</td><td>50.00</td></tr> <tr><td>Slow Speed (mm/s)</td><td>10.00</td></tr> </table> X Axis <table border="1"> <tr><td>Go Origin Direction</td><td>Positive</td></tr> <tr><td>Go Origin Offset (mm)</td><td>10.00</td></tr> </table> Y Axis <table border="1"> <tr><td>Go Origin Direction</td><td>Positive</td></tr> <tr><td>Go Origin Offset (mm)</td><td>10.00</td></tr> </table> Import Export OK Cancel	☐ Use Z Phase Signal		Sample Signal Type	Origin	Limit Switch Type	Normal Open	Fast Speed (mm/s)	50.00	Slow Speed (mm/s)	10.00	Go Origin Direction	Positive	Go Origin Offset (mm)	10.00	Go Origin Direction	Positive	Go Origin Offset (mm)	10.00
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Please check the detail definitions of each parameter as below:

Axis Parameters	Parameters Name	Default Value	Remark
X-Axis	Max Length(mm)	1500	
	Pulse Equivalent(pulse/mm)	1000	The number of pulses needed to run 1mm
	Limit Switch Type	Normal Open	Limit switch type of X-axis should be the same with Y-axis.
	Encode Reverse	Not check	
Y-Axis	Double Drive	Check	If checked, the Y axis enables dual drive mode
	Max Length(mm)	3000	
	Pulse Equivalent(pulse/mm)	1000	The number of pulses needed to run 1mm
	Limit Switch Type	Normal Open	Limit switch type of Y-axis should be the same with X-axis.

	Encode Reverse	Not check	
Misc	Double Drive Error Alarm	Check	If checked, the software will alarm and stop when the alarm condition is reached
	Double Drive Error Tolerance	100	
	Double Drive Error Keep Time	100	
	Encoder 4 multiplier freq	Check	
Go Origin	Use Z Phase Signal	Not check	
	Sample Signal Type	Origin	The user can select the limit signal or the origin signal
	Limit Switch Type	Normal Open	
	Fast Speed(mm/s)	50	
	Slow Speed(mm/s)	10	
X-Axis	Go Origin Direction	Positive	
	Go Origin Offset(mm)	10	
Y-Axis	Go Origin Direction	Positive	
	Go Origin Offset(mm)	10	

Steps for configuration:

1、 According to machine's construction, user can choose the mode of X axis, Y axis (single driver/dual driver), SC1000 software don't support rotate axis.

If Y axis is set up as single drive mode, please don't check dual drive mode.

2、 Configure the limits/origin point signal/cutting machine's size.

SC1000 software supports photoelectric switch /mechanical switch, and it can choose open/close logic. Please set the limit of each axis correctly, otherwise, it may not be working properly.

Note: Users should choose the same limit switch type with the same logic to avoid the logical difference between X axis and Y axis.

Users may manually trigger limits/origin to see if the lights on MCC mother board can response accordingly.

Please make sure all limits are working properly before we move to next step.

According to machine's construction to configure the maximum trip of XY axis. After the cutting head successfully moving back to the origin point, please check the soft limits on software. And SC1000 will control the trip of each axis. Once the cutting head moves over the soft limits, SC1000 will alarm.

3、Pulse equivalent configuration.

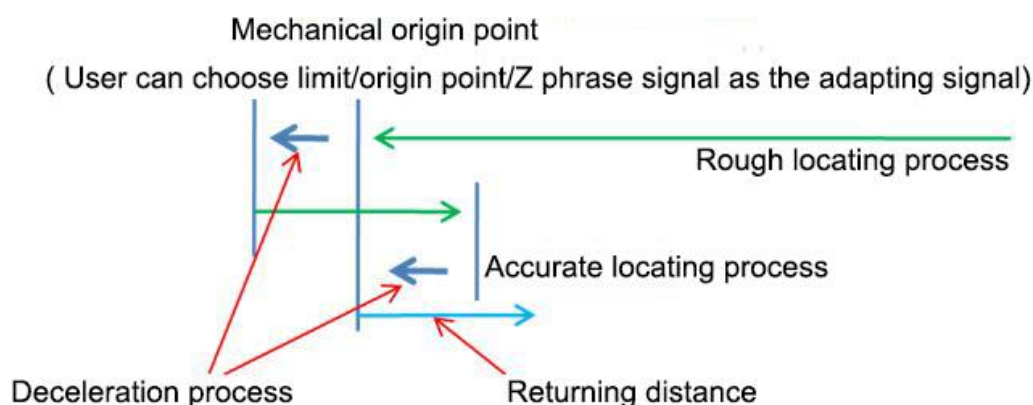
Users must accurately setup the parameters of pulse equivalent, or it can result in moving speed error and precision error. The definition of pulse equivalent: the number of pulses which can make the cutting machine travels 1mm.

e.g. when X Axis servo driver subdivide in 10000(the number of pules which can make the motor rotates 1 circle) , the motor of X axis rotates 1 circle, the cutting machine can step forward 10mm, then the pulse equivalent is $10000/10=1000$

If the pulse equivalent is not integer, SC1000 supports keeping the last 4 digits after dot.

4、Back to origin point parameters configuration

Software supports going back origin twice. User can configure the origin point signal. SC1000 supports servo motor Z phrase signal/limits/origin signal as the adapting signal of the origin point.



User can configure the parameters of going back origin point accordingly. Kindly suggest you not to use high speed in order to make sure the safety.

4.3.2 laser setting

Raycus laser setting:

☒ Axis	Laser Type	Raycus
☒ Laser	General Control Type: MCC Serial	
☐ FTC	DA DA Port: 0 DA Range: 0 ~ 10V	
☐ Auto Focus	IO Remote Start: 0 Shutter: 0 Laser Emission: 0 Red Light: 0	
☐ Gas	PC Serial Port Number(COM): 1 Baud Rate: 9600	
☐ IO		
☐ Advanced		

IPG laser setting:

☒ Axis	Laser Type	IPG
☒ Laser	General Control Type: Net	
☐ FTC	DA DA Port: 0 DA Range: 0 ~ 10V	
☐ Auto Focus	IO Remote Start: 0 Shutter: 0 Laser Emission: 0 Red Light: 0	
☐ Gas	PC Serial Port Number(COM): 1 Baud Rate: 9600	
☐ IO		
☐ Advanced		

MaxPhotonics laser setting

Laser Type MaxPhotonics

General	
Control Type	None
DA	
DA Port	1
DA Range	0 ~ 10V
IO	
Remote Start	0
Shutter	0
Laser Emission	9
Red Light	0
PC Serial	
Port Number(COM)	1
Baud Rate	9600

Please keep the same with the hardware wiring.

Note: since Maxphotronics laser has no laser gate, the laser gate port can be configured with any unused output port. After the laser part's configuration has all been finished, please make sure the laser machine can emit laser properly.

4.3.3 FTC configuration and debugging.

Motion control card-MCC3721H has integrated with the function of Z axis's focus tracking controller. Please set the "Control Type" as "MCC3721H" in FTC.

PS: This setting can only work after SC1000 software is restarted.

FTC Parameters

General	
Control Type	MCC3721H
PC Serial	
Port Number(COM)	1
Baud Rate	9600
DI	
Follow	0
Drill	0
Jog Up	0
Jog Down	0
DO	
Alarm Status	0
Follow in Place	0
Drill in Place	0

User can check the status and parameters of FTC in "SYSTEM ANALYSIS" – "FTC". If all the information of "Product Model"/"Software Version"/"Hardware Version"/"Run Status"/"Signal Intensity" can be normally displayed, that means the configuration of MCC3721H's FTC part on SC1000 software has successfully been done.

PS: Please keep the parameters of "Screw Thread" and "Pulse Per Cycle" the same as the reality.

SYSTEM ANALYSIS

Controller: **FTC** | Simulation speed: - | + | Log | Error measurement | Param Upload | Monitor | Diagnostics

Run Property

Head Calibra...

ZF Run Speed: 300 mm/s
ZF Run Speed: 500 mm/s
Slow Joq Speed: 30 mm/s
Fast Joq Speed: 100 mm/s
ZF Dock Height: 35 mm

Run Status

Product Model	3761
Software Vers...	60203
Hardware Ver...	0
Run Status	0x80000002
Signal Intensity	347101
Z Coord(mm)	22.00
Temperature(...)	0
Alarm State	0x0
DO State	0x0
Run Command	0
Command Sta...	0
Signal Height	17003
Pulse Position	0
Encoder Positi...	22005
Current Spee...	0.00
Signal Compe...	0
Follow Time	180
Button State	0
Follow Error	0
DA Reg Value	0
Follow Lib Ver	0
Servo Position	0
Follow Error	0
Position	0

FTC Property

Z Follower Parameters

☒ Use Encoder	
Servo Direction	Negative
Encoder Direction	Positive
Screw Thread (m...	10.00
Pulse Per Cycle	10000
Encoder Pulse Pe...	10000
Limit Switch Type	Bottom to T...
Axis Empty Move...	200
Axis Acceleration ...	20000
Axis Acceleration ...	0.20
Follow Tolerance ...	0.05
Drill Tolerance (...)	0.30
Follow Sensitivity	15
☐ Go Origin Po...	
Go Origin Fast S...	50
Origin Offset (mm)	2.00
☒ Enable Soft Li...	
Soft Limit Low Va...	150.00
Touch Sheet Alar...	1000
Touch Sheet Alar...	100
Follow Error Alar...	5.00
Follow Error Alar...	200
☒ Enable Encod...	

Calib Datas | System R... | Write Par... | Refresh P... | Cancel

4.3.4 Gas configuration and debugging.

The system supports high pressure valve, low pressure valve and proportional valve. Gas port can be configured according to different requirements.

- Axis
- Laser
- FTC
- Gas
- IO
- Advanced

Gas Parameters	
▾ Low Pressure Valve	
Air	14
O2	13
N2	0
▾ High Pressure Valve	
Air	0
O2	0
N2	0
▾ Proportional Valve	
Air	None
O2	None
N2	None
Max Pressure (Bar)	10.00
▾ Main Valve	
Main Valve	0
▾ Secondary Valve	
Low Pressure Gas	0
High Pressure Gas	0

4.3.5 I/O port configuration and debugging.

User can configure all the I/O ports according to your needs. SC1000 supports the functions like signal light/emergency stop/chiller warning.

Take the 3-color signal lights as an example:

User needs to configure SC1000 after finish connecting the signal cables with the output ports accordingly.

■ Axis ■ Laser ■ FTC ■ Gas ■ IO ■ Advanced	<table> <tr> <th colspan="2">IO</th></tr> <tr> <td colspan="2">▾ DO</td></tr> <tr> <td>Standby Signal</td><td>4</td></tr> <tr> <td>Process Signal</td><td>5</td></tr> <tr> <td>Alarm Signal</td><td>6</td></tr> <tr> <td>Dedust</td><td>0</td></tr> <tr> <td colspan="2">▾ DI</td></tr> <tr> <td>Emergency Stop</td><td>0</td></tr> <tr> <td>Water Alarm</td><td>1</td></tr> <tr> <td>Water Alarm Switch ...</td><td>Normal Open</td></tr> <tr> <td>Laser Alarm</td><td>0</td></tr> <tr> <td>Laser Alarm Switch T...</td><td>Normal Open</td></tr> <tr> <td colspan="2">▾ Misc</td></tr> <tr> <td>☐ Standby Signal Al...</td><td></td></tr> </table>	IO		▾ DO		Standby Signal	4	Process Signal	5	Alarm Signal	6	Dedust	0	▾ DI		Emergency Stop	0	Water Alarm	1	Water Alarm Switch ...	Normal Open	Laser Alarm	0	Laser Alarm Switch T...	Normal Open	▾ Misc		☐ Standby Signal Al...	
IO																													
▾ DO																													
Standby Signal	4																												
Process Signal	5																												
Alarm Signal	6																												
Dedust	0																												
▾ DI																													
Emergency Stop	0																												
Water Alarm	1																												
Water Alarm Switch ...	Normal Open																												
Laser Alarm	0																												
Laser Alarm Switch T...	Normal Open																												
▾ Misc																													
☐ Standby Signal Al...																													

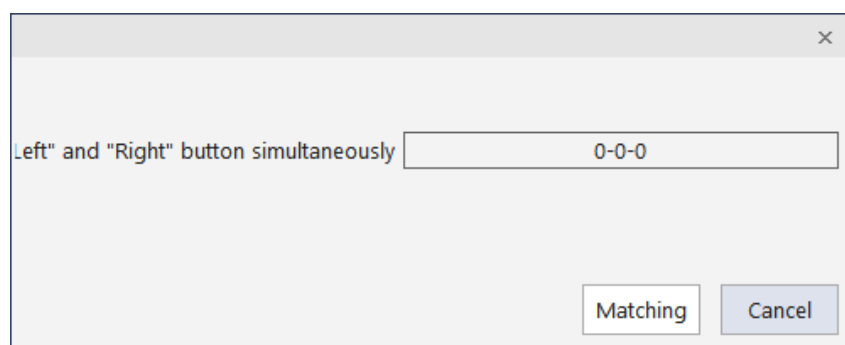
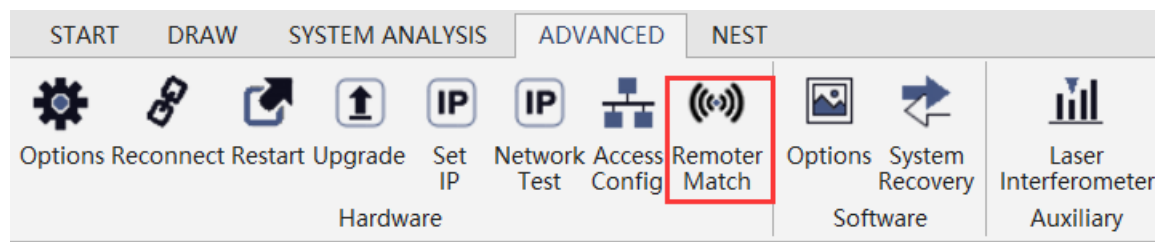
4.3.6 Wireless remoter configuration.

Wireless remoter needs to be paired up with SC1000 software before using.

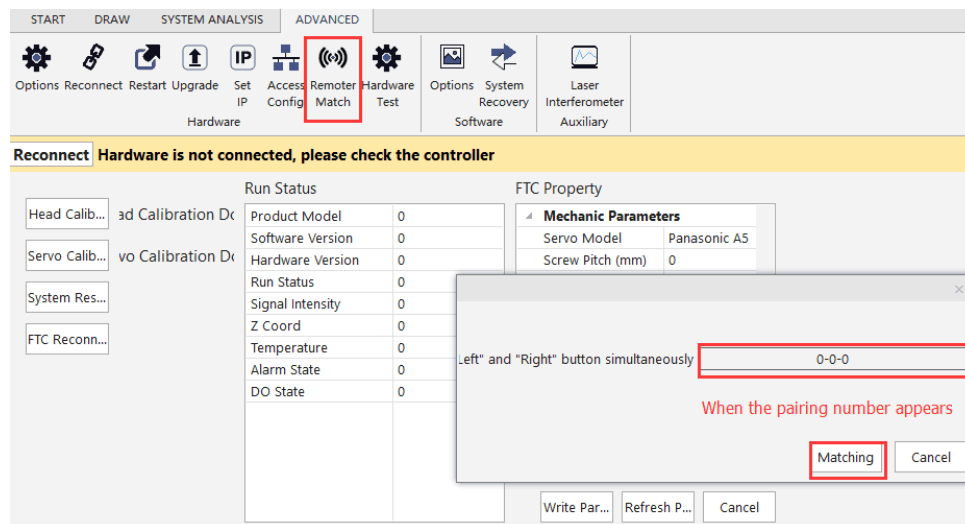
Steps:

- 1、 Please insert the signal receiver of the Wireless remoter into the USB socket, either of the computer or the motion control card.

2、Open the SC1000 software and switch on the remoter , then click “**ADVANCED**” -“**Remoter Match**” to start pair up.



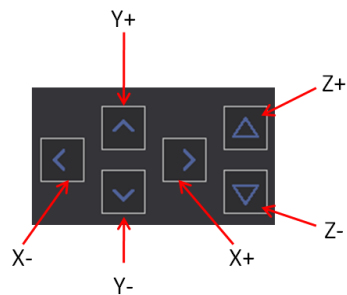
3、Pressing “Left” and “Right” button of the wireless remoter simultaneously, it will show a pairing number, then press “Matching” to finish the pairing up.



5. Test running.

After all parameters have been configured, user can start to test with the following steps:

1、Make sure all directions are correct.



2、 Make sure the speed and accuracy can meet the requirements.



3、 Make sure the FTC part of MCC3721H can work properly.

Please do **head calibration** when the whole system works in its first time. Please make sure these 3 things before doing head calibration:

- The metal sheet that needs to be cut has already been placed under the cutting head.
- The direction of Z axis moving up and down is correct, and the moving speed is proper.
- The positive limit and Go Origin of Z axis is normal.

START DRAW **SYSTEM ANALYSIS** ADVANCED NEST

Controller **FTC** Simulation speed - +
Monitor

Log Error Param
measurement Upload
Diagnostics

Head Calibra...

Run Property

ZF Run Speed 300 mm/s
ZF Run Speed 500 mm/s
Slow Joq Speed 30 mm/s
Fast Joq Speed 100 mm/s
ZF Dock Height 35 mm

Run Status

Product Model	3761
Software Vers...	60203
Hardware Ver...	0
Run Status	0x80000002
Signal Intensity	347101
Z Coord(mm)	22.00
Temperature(...)	0
Alarm State	0x0
DO State	0x0
Run Command	0
Command Sta...	0
Signal Height	17003
Pulse Position	0

FTC Property

Z Follower Parameters

☒ Use Encoder	
Servo Direction	Negative
Encoder Direction	Positive
Screw Thread (m...	10.00
Pulse Per Cycle	10000
Encoder Pulse Pe...	10000
Limit Switch Type	Bottom to T...
Axis Empty Move...	200
Axis Acceleration ...	20000
Axis Acceleration ...	0.20
Follow Tolerance ...	0.05
Drill Tolerance (...)	0.30

4、 Make sure all gas and laser are working properly.

☐ Follow ☐ Gas

☐ Shutter ☐ RedLight ☐ Laser

☐ Only Selected G... Pwr(%) 30