

Read this manual before operation

- The content include of electric connections and operating steps
- Read the manual to operate the systems

LFS-ANM-T43-V2

Non-metal distance controller user manual

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CERTIFICATION DECLARATION

CE

The product has been certified by the CE (Commutate European) safety certification. It has passed the corresponding conformity assessment procedure and the manufacturer's declaration of conformity, in accordance with the relevant EU directive.

ROHS

This product has been certified by EU legislation (Restriction of Hazardous Substances) Safety certification; comply with relevant EU environmental regulations.

FCC

This product has been certified by the Federal Communications Commission for safety, Comply with us electronic safety regulations.

SAFETY INFORMATION

When using this system, please make sure the operation is correct and the usage is safe. Some signs or text will be used to remind you to pay attention to the dangerous matters and some important information.



Dangerous:

Indicates a serious danger. In the process of use, if the operation is improper or the way of use is wrong, it may cause serious injury or even death to the user. Please do not operate it easily until you have made sure that the operation method is correct and the way of use is correct.



Warning:

Danger. In the process of use, if the operation is improper or the use is wrong, which may lead to the injury of the personnel, please do not operate the personnel and related personnel easily, until ensure the correct operation method and use method is correct before use.



Cautious:

Represents the potential risk of the product. In the process of use, if the use method is wrong or improper operation, it may cause damage to the product or some parts. Please do not use it until you have made sure that the operation method is correct and the usage is correct.



Important:

Represents important information to be paid attention to during the use of the product. Please do not ignore this information, this information will provide effective operational help.

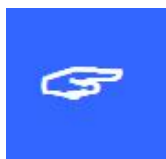


This sign indicates laser radiation, which is usually posted on products with laser output. Please be careful with laser and pay attention to safety when using this kind of equipment.

Sign in、Devanning、Examine cargo

The product itself with plastic or metal shell, can protect the external electrical components from damage. The products are packed in foam bags and anti-static bags. If there is any external damage to the package, check the equipment and notify the carrier and carrier in writing of the damage.

Important:



After receiving the product, please check whether the outer package is intact, check whether the product is complete after unpacking and whether all parts are intact. If any damage is found, please contact ruida immediately.

Remove all cargo from package and keep packing material and wiring parts. Please take care of the safety of the goods when unpacking them. After taking out the goods, please check whether the parts are complete and intact. If any missing parts or damaged parts are found, please contact ruida technology immediately. Do not install or debug the equipment if any obvious damage is found.

Live Focus System (LFS) is applied in laser processing machine. Laser is CLASS3 and CLASS4 protection.

Please reference to GB7247.1-2001 and take some safety protection measures.

The following should be executed:




- Operation persons should wear protection glasses。
- Connection to the earth. A valid connection to earth should be done and the resistance should be less than 1 ohm.
- Please do not try to disassemble parts of the LFS. Or LFS will be fault
- Laser beam and the LFS sensor are integrated design. When the LFS is working, please do not touch the sensor. Or there are damage to your body
- When cutting metal, please notice the reflect laser beams from the metal surface. Some protection measure should be taken to avoid the body to be damaged.
- Keep the sensor and nozzle clean. Avoid the cooling water flow into it. If water and other conductor enter the sensor, the sensor will be fault. The laser power and other controllers should conform with the EMC standard and should be connect to the earth reliably.

Contents

Chapter 1	Introduction.....	1
1.1	System Introduction.....	2
1.2	Accessories.....	2
1.3	Laser displacement sensor.....	5
Chapter 2	Hardware description.....	6
2.1	System wiring diagram.....	7
2.2	Power Input(CN1).....	8
2.3	Laser displacement sensor(CN2).....	8
2.4	Touch screen interface(CN3).....	8
2.5	External output interface(CN4).....	8
2.6	Control Input And Output(CN5).....	9
2.7	External Power Input(CN6).....	9
2.8	Motor Interface(CN7).....	9
2.9	USB interface.....	10
2.10	Led Indicator.....	10
2.11	Switch.....	10
Chapter 3	Function Introduction.....	11
3.1	Touch Screen Introduction.....	12
3.2	Function Introduction.....	13
3.2.1	Main Interface Function.....	13
3.2.2	Parameters Setting.....	14
3.2.3	Parameter Management.....	15
3.2.4	Alarm Information.....	16
3.2.5	Blowing Test.....	16
3.2.6	System Information.....	17
3.2.7	System Time.....	17
Chapter 4	Trial operation.....	19
4.1	Non-metal distance controller trial operation.....	20
4.2	Cutting test.....	22
Chapter 5	Alarm message descriptions.....	25
5.1	Alarm information explanation.....	26
5.2	System error.....	26
5.3	Upper and lower limit trigger.....	26
5.4	Reset error.....	26
5.5	Beyond detection range.....	27
5.6	Emergency stop.....	27
5.7	Multiple errors.....	27
Chapter 6	Appendix.....	28
6.1	Usual Fault & Disposing Method.....	29
6.2	Installation method of sensor.....	30

Section 1 Introduction

CONTENTS:

-  System Introduction
-  Accessories
-  Laser displacement sensor

1.1 System Introduction

LFS-ANM-T43-V2 Non-metal distance controller (hereinafter referred to as 'Non-metal distance controller'). It is a non-metallic cutting automatic distance system based on laser displacement sensing technology. It can work with RDC633XM for non-metal cutting control system. The system mainly consists of the following parts:

- Motion control system, including motion controller, operation panel and relative control software
- Non-metal distance controller, Laser displacement sensor and laser cutting head
- Auxiliary gas switch relay
- Positive and negative limit switches of laser cutting head

The motion control system is primarily responsible for the control of the entire non-metal cutting motion and the external accessories. Non-metal distance controller adjusts the distance automatically from the sensor to the cutting object according to the laser displacement sensor. To make that the laser focus falls on the surface of the nonmetal object. The laser head is use to install focus lens (long lens and short lens) and protection lens, at the same time do same air cooling for those lens. The non-metal distance controller can control the auxiliary gas automatically. Limit switch signal connect to the non-metal distance controller to protect motor motion.

1.2 Accessories

Non-metal distance controller includes the following important accessories:

- Non-metal distance controller LFS-ANM-T43-V2, as shown in Figure 1.1.
- 4.3 inch touch screen, as shown in Figure 1.2.
- Touch screen connection line.
- Laser displacement sensor, as shown in Figure 1.3.

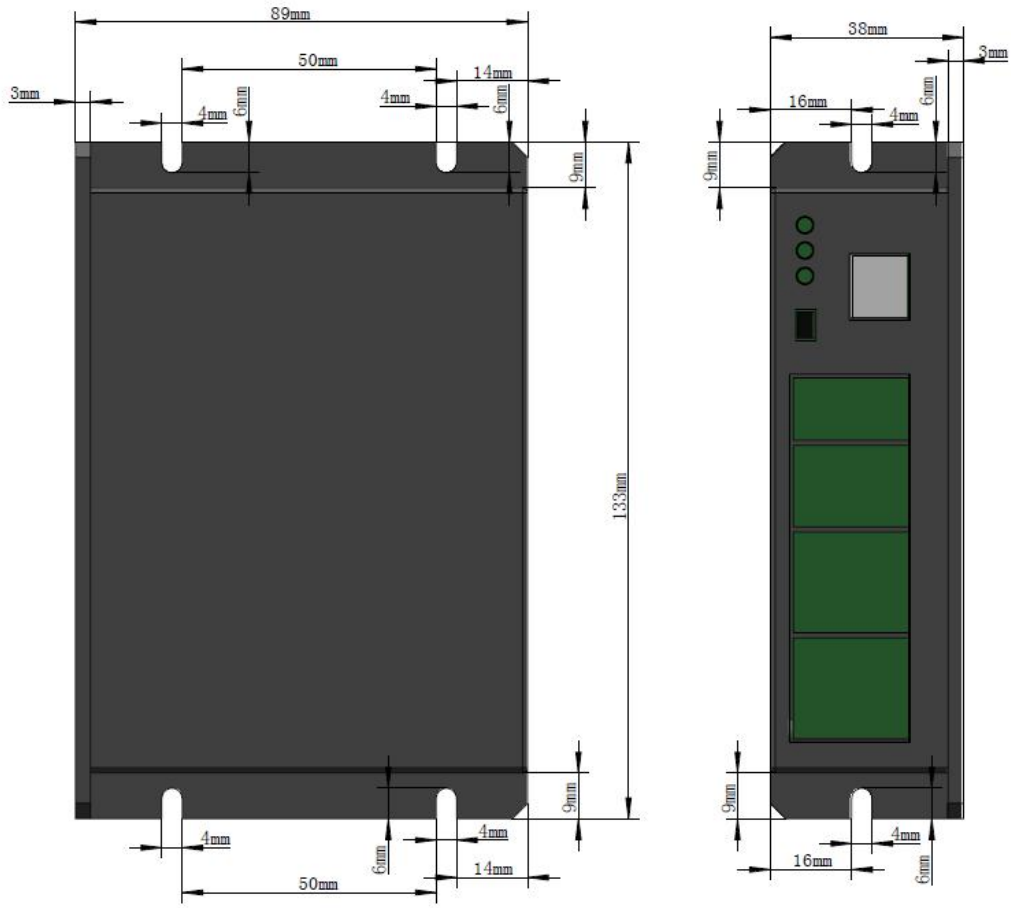


Figure 1.1 Non-metal distance controller

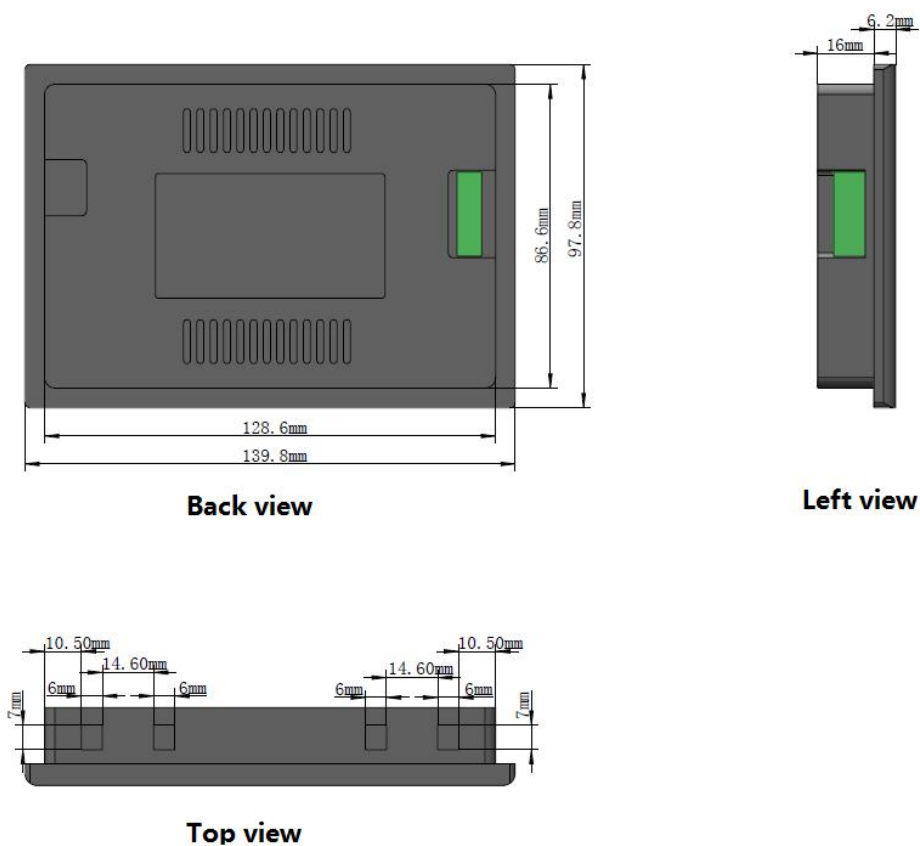


Figure 1.2 touch screen

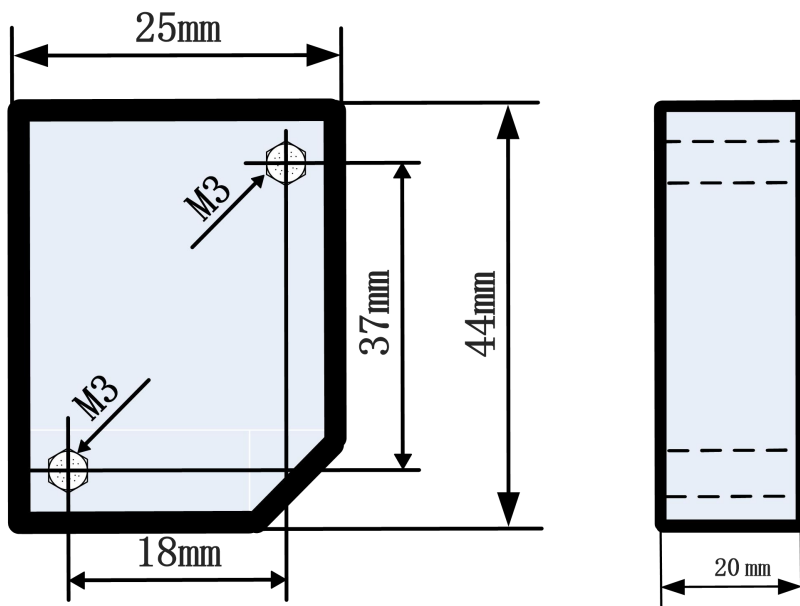
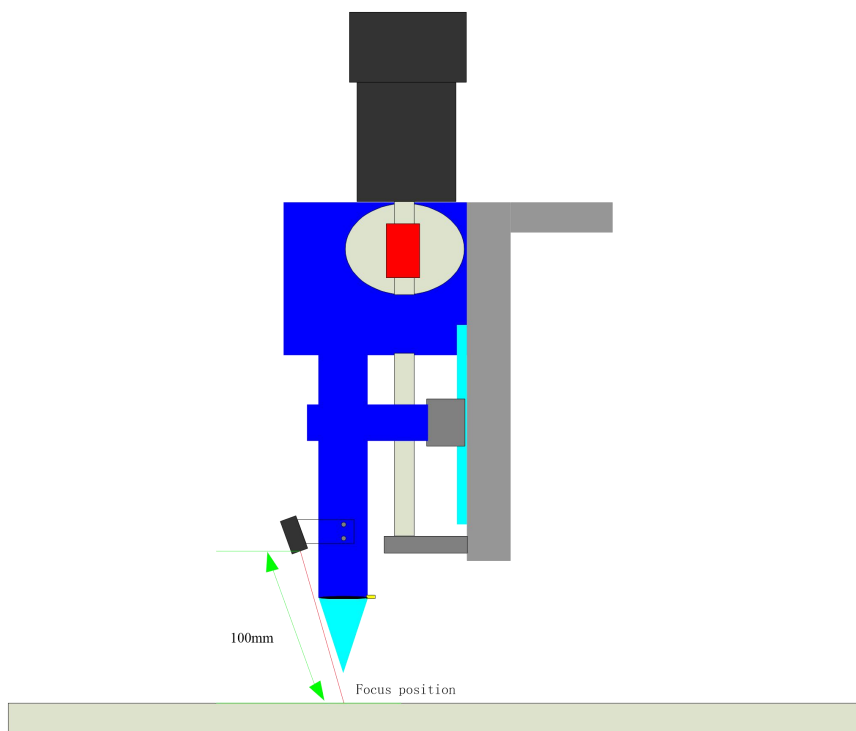


Figure 1.3 Laser displacement sensor

1.3 Laser displacement sensor

The laser displacement sensor adopts the principle of laser reflection ranging. The bottom of the sensor is the laser transmitting window and the laser receiving window. The distance between the laser transmitting window and the focal plane is 100mm, which is changed according to the different sensor models. Suppose the distance of the selected sensor is 100mm. The center moment of the sensor is 100mm, and the detection range is ± 35 mm. The wavelength of the laser emitted by the sensor is 655nm, as shown in Figure 1.1. Do not stare into beam.



This product is not suitable for the following occasions:

- Highly reflective material
- The material that absorbs infrared light at a wavelength of 650 nm
- Transparent material

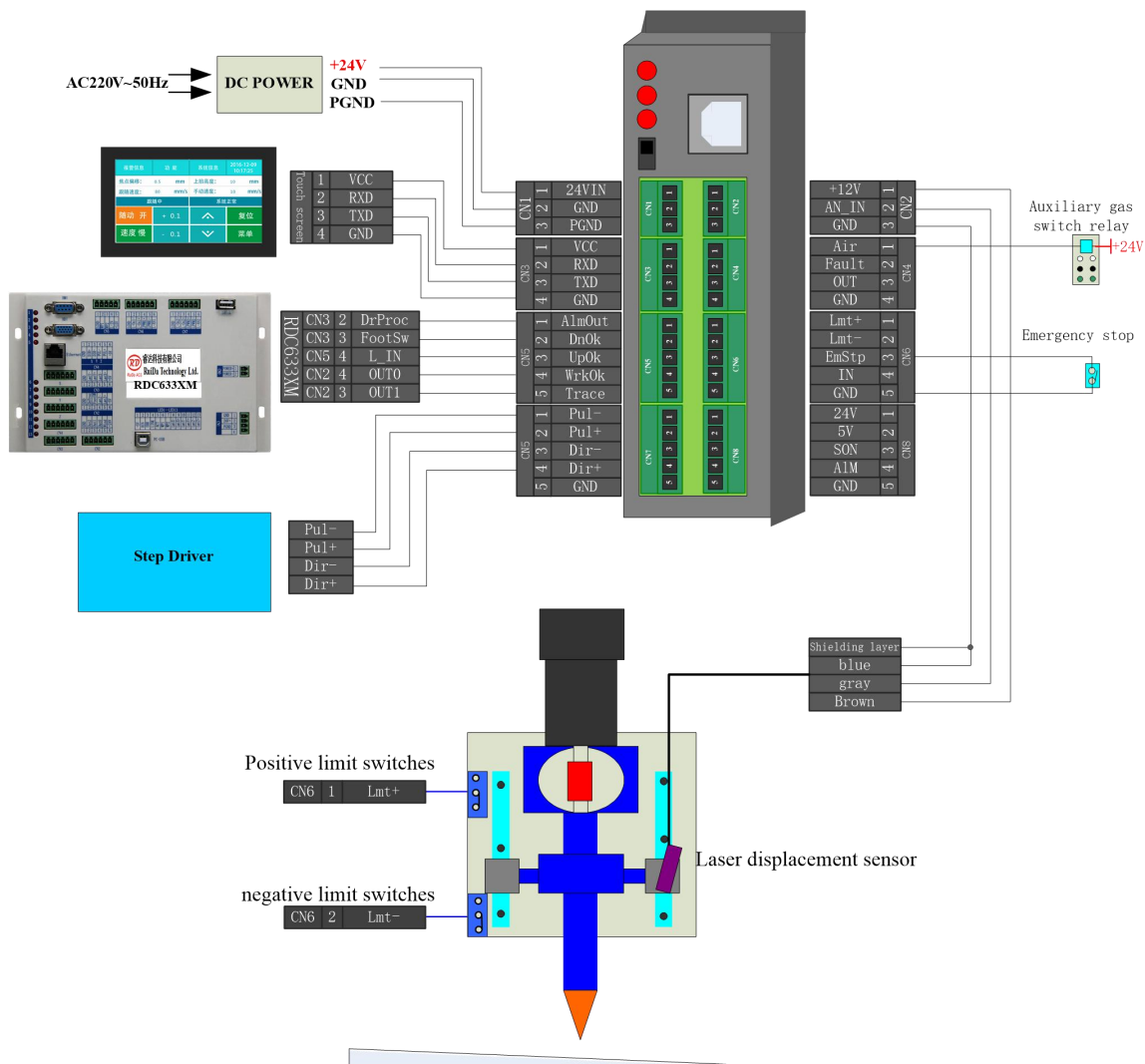
The slope changes dramatically occasion

Section 2 Hardware description

CONTENTS:

- System wiring diagram
- Power Input(CN1)
- Laser displacement sensor(CN2)
- Touch screen interface(CN3)
- External output interface(CN4)
- Control Input And Output(CN5)
- External Power Input(CN6)
- Motor Interface(CN7)
- USB interface
- Led Indicator
- Switch

2.1 System wiring diagram



2.2 Power input(CN1)

PIN	SIGNAL	DEFINITION	DESCRIPTION
PIN1	24VIN	+24V power supply interface	+24V output, drive ability above 2A
PIN2	GND	+24V power reference ground	—
PIN3	PGND	EARTH	—

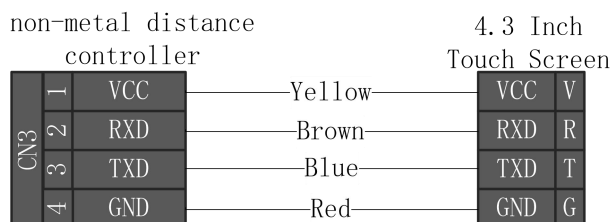
2.3 Laser displacement sensor(CN2)

PIN	SIGNAL	DEFINITION	DESCRIPTION
PIN1	+12V	+12V power out	Power supply for sensors
PIN2	AN_IN	Analog input	Input scale: 0-10V
PIN3	GND	—	—

2.4 Touch screen interface(CN3)

PIN	SIGNAL	DEFINITION	DESCRIPTION
PIN1	VCC	Touch screen power supply	+24V, connection the channel of touch screen V interface
PIN2	TXD	Serial read data interface	connection the channel of touch screen T interface
PIN3	RXD	Serial write data interface	connection the channel of touch screen R interface
PIN4	GND	—	—

Ruida Technology has been equipped cable connection in the product accessories. The standard length of cable is 1.5 meter. The user only needs to connect according to interface.

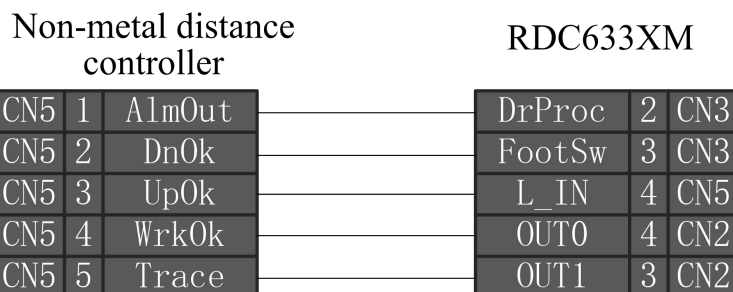


2.5 External output interface(CN4)

PIN	SIGNAL	DEFINITION	DESCRIPTION
PIN1	Air	Air control	Drive relay
PIN2	Fault	System error interface output	Drive relay
PIN3	OUT	Reserved	Drive relay
PIN4	GND	—	—

2.6 Control input and output(CN5)

PIN	SIGNAL	DEFINITION	DESCRIPTION
PIN1	AlmOut	Crash alarm output	When the laser head crash to the metal plate, the AlmOut output 24V.
PIN2	DnOk	Going down status	Low level valid
PIN3	UpOk	Rising up status	Low level valid
PIN4	WrkOk	Work status indicator	controller work status. The signal comes from the controller.
PIN5	Treace	Trace signal	When low level, the LFS will control the laser head to trace down. When high level or open, the LFS will rise the laser head.



2.7 External power input(CN6)

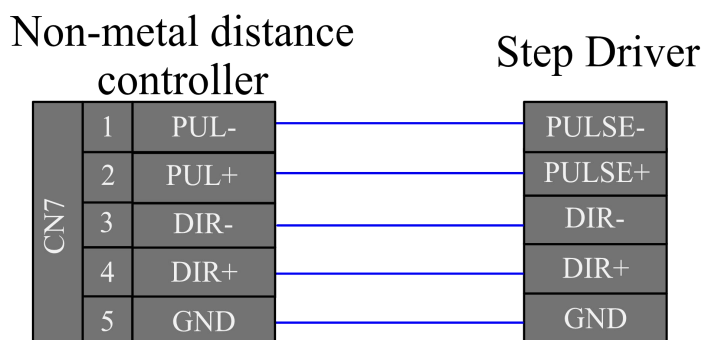
PIN	SIGNAL	DEFINITION	DESCRIPTION
PIN1	Lmt+	UP limit	Compatible 5V, 24V logic level
PIN2	Lmt-	Down limit	Compatible 5V, 24V logic level
PIN3	EmStp	Emergency input	Low level valid
PIN4	IN	Reserved	Compatible 5V, 24V logic level
PIN5	GND	—	—

2.8 Motor interface(CN7)

PIN	SIGNAL	DEFINITION	DESCRIPTION
CN7			
PIN1	PUL-	Pulse-	TTL level
PIN2	PUL+	Pulse-	TTL level
PIN3	DIR-	Dir-	TTL level
PIN4	DIR+	Dir+	TTL level
PIN5	GND	—	—
CN8			

PIN1	24V_O	24V power output	—
PIN2	5V_O	5V power output	—
PIN3	SON	Servo enable interface	—
PIN4	ALM	Servo alarm input	—
PIN5	GND	—	—

1) If you connect the stepper motor, you can use the differential connection, the common connection etc. It can be choose the connection way according to the specify of stepper motor. it is recommended to use differential connection.



2) If connect servo motor, connecting it with relative way according servo driver model and set the servo drive parameters correctly.

- ◆ The servo drive is set to position mode
- ◆ Direction and pulse polarity settings
- ◆ To set the number of pulses per rotation of the motor

2.9 USB interface

USB interface can be upgraded the non-metal distance controller.

2.10 Led indicator

LED name	Description
+24V	24V Power indicator
RUN	System running indicator
PRM	System upgrade mode indicator

2.11 Switch

To enter onto normal or upgrate mode through the switch below USB port.In general,it is normal mode when switch to ON.It is upgrate mode when the switch to OFF.

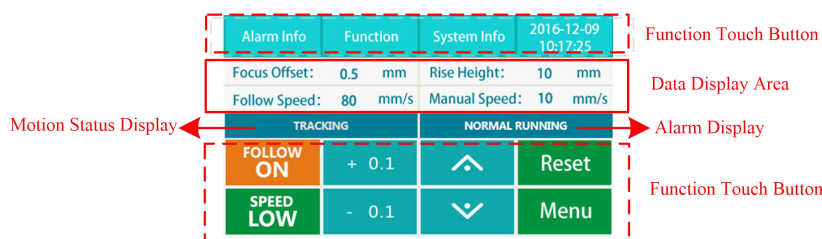
Section3 Function Introduction

CONTENTS:

- Touch Screen Introduction
- Function Introduction

3.1 Touch Screen Introduction

Non-metal distance controller configure 4.3 inch colorful touch screen, the resolution is 480*272. It can be very intuitive display the non-metal distance controller operating status. At the same time, it can control the cutting head and revise general parameters like functions touch bottom, data display, motion status display, alarm information display. The main interface as following:



- **Function Touch Button:** User can operate different functions by touching relative module.
- **Data Display Area:** Used for data display, not touchable;
 - Focus Offset:** This parameter is to set focus offset, it is the distance of focus actual position to the origin position.
 - Rise Height:** This parameter is the lifting height of the sere cutting status.
 - Follow Speed:** This parameter is the maximum speed of following motion
 - Manual Speed:** This parameter is the maximum speed of manual movement.
- **Motion Status Display:** Be used to showing the movement status of the cutting head, not touchable.
- **Alarm Display:** It is display alarm information of the non metal distance controller system. If showing multiple errors. It can touch “alarm information” bottom to check the details of alarm information.

It use serial communication for data communication between non-metal distance controller and touch screen. RuiDa Technology has been equipped cable connection in the product accessories. The standard length of cable is 1.5 meter. The user only needs to connect according to interface.

After make sure connection of non-metal distance controller and main board, power on, the touch screen will enter main interface, which means connection normal.

If touch screen connect error, then the operate panel will showing “connect failure”, it need to check the connection.

3.2 Function Introduction

3.2.1 Main Interface Function

- **“FOLLOW ON/OFF”**: It is use to turn on /off follow status. When turn on, Non-metal distance controller adjust the cutting head automatically by current parameters and move in the focus position. When turn off, it cannot control the cutting head.
- **“SPEED FAST/SLOW”**: It is used to change speed fast/slow. When fast speed, the manual movement maximum speed is manual high speed. When slow speed, the manual movement maximum speed is manual slow speed. In the touch screen data display area "Manual speed", it can view the current manual speed
- **“Menu”**: it can setting the parameters and parameters manager from manual
- **“Reset”**: it can reset the non-metal distance control system and go back to origin. When you want to reset, please make sure you have installed upper limit switch.(Remarks: Do not reset when triggering the lower limit)
- **“±0.1”**: You can modify the focus offset online , Fine-tuning the cutting head , increase or decrease 0.1mm each time. Reads the current focus offset from the data display area of “Focus Offset”.
- **“Up and down”**: It can control the cutting head moving up and down,press the bottom to start. It will stop when trigger limit switch or release the bottom.
- **“Alarm Info”**: It can enter into the interface of alarm information, to check the details record of alarm. It can record 9 times of alarm information.
- **“Function”**: It can enter the interface of blowing test function. Press “blow testing”, blowing on, when you release the bottom will stop.
- **“System Info”**: You can change the touch screen language and check the non-metal distance controller software version number
- **“System time”**: it can change the system time.

3.2.2 Parameters Setting

It can set the parameters from “Menu” main interface. Including process parameters, height parameters, speed parameters, machine parameters etc.



Remarks: Please setting parameters correctly when using the non-metal distance controller, otherwise, the non-metal distance controller cannot work.

The meanings of the parameters are shown in the following:

Technical Para	Filter Factor	Increase these parameters to improve the response speed of the following. But it is easy to shock when moving. Please set suitable parameters.
	Alarm filter	This parameter should not be set too large. Excessive alarm filter coefficients cannot prevent the cutting head when breaks down. In contrast, too small alarm filter coefficient is easy to cause the laser displacement sensor wrong detection to alarm.
	Enable Advanced Blowing	In the enable status, Once start processing will blow air until the work finished
	Following Acceleration	Acceleration Limits during following moving
Height Para	Rise Height	It is the height of the lifting during the cutting process。
	Alarm Height	It is the height of the non-metal controller lifting automatically that trigger lower limit or beyond detection range during following moving.
	Standby height	It is the height of the cutting head when finished cutting.
	Focus Offset	It is the offset of actual position of the focus to the zero position and the position of movement of the cutting head to maintain stable.
	Reset Height	The distance of moving downward touching upper limit switch when reset.
Speed Para	Rise Speed	It is the maximum speed during the cutting process.

	Follow Speed	It is the maximum speed at which following cutting process
	Reset Speed	It is the maximum speed when reset.
	Manual Speed High	It is the maximum speed that is manually moving in the "fast speed" status.
	Manual Speed Low	It is the maximum speed that is manually moving in the "low speed" status.
Machine Para	Direction Polarity	It is used to set the direction of the motor rotation.
	Acceleration	It is used to set the acceleration when moving.
	Screw Pitch	Screw pitch, the parameters need to be set according to the actual situation of the machine.
	Circle Pulse Number	It is the number of pulses that the motor rotate one circle. If Stepper motor, it means motor-driven subdivision. If servo motor, it means the pulse sucks when the motor rotate one circle.
Other Para	Enable Power On Reset	It is used to setting whether reset or not when power on. If enable reset. When power on, non-metal distance controller will reset one time. If prohibit, when power on, non-metal distance controller will not reset.
	Limit Polarity	To set limit polarity, If it is NPN switch, to setting the limit polarity is Negative. If it is PNP switch, to setting the limit polarity is positive
	Enable Limit	If the limit is enabled, limit protection is generated when the limit is triggered; if the limit is disabled, protection will not be protecting when the limit is triggered.

3.2.3 Parameter Management

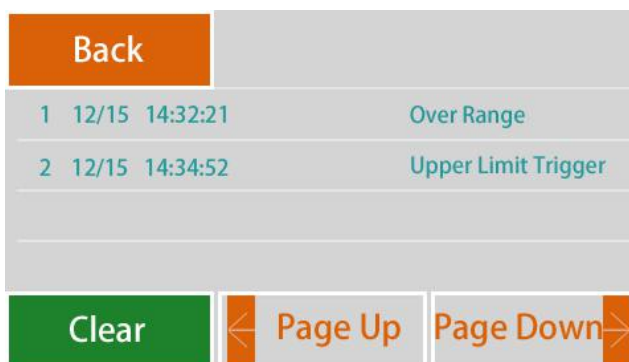
Parameter management is mainly to used to save and restore the user parameters of non-metal distance controller. When operating, it needs manage permissions. User can set the parameters only when you write down the password correctly. User cans setting the parameters according actual situation. The current parameter can be saved as a vendor to facilitate recovery management. When restore, it will restore the last saved vendor value to user parameter. If users are not save this value before restore, the default value is restored to the user parameter.



3.2.4 Alarm Information

In the main interface, click “alarm Info” enter into the interface.

In this interface, user can check the details of alarm record (Including the time to trigger the alarm and the type of alarm).it can record at most 9 times the non-metal booster alarm information. You can press the "clear" button to clear the alarm information record. At the same time, you can press “Page Up ”, "Page Down" to view the alarm information in different pages.

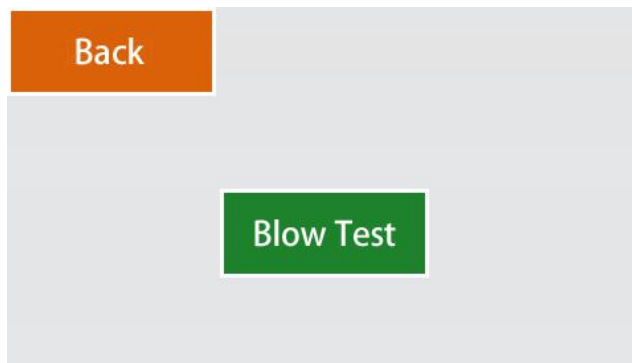


3.2.5 Blowing Test

In the main interface, press “Function” enter into the interface of “Blow Test”

The blowing test is to test whether the cutting gas control is normal or not, to avoiding light and no air.

Test Methods: pressure “Blow Test”, It will blow on, until the release button, stop the air.



Remarks: When testing, please make sure the system is idle, otherwise it cannot be tested.

3.2.6 System Information

In the main interface, press “system information” enter into the interface .

Under this interface, user can set system language (Chinese and English) and to know the version of software version.



3.2.7 System Time

In the main interface, user can change the time in the touch screen of upper right corner to change.

Under this interface, user can set date and time. When entering the interface, user will get the current touch screen time. If it is not the current time, you can set it then press “enter” .

Change date and time

Date:	2016	Year	12	Month	15	Day
Time:	14	Hour	40	Minute	32	Seconds

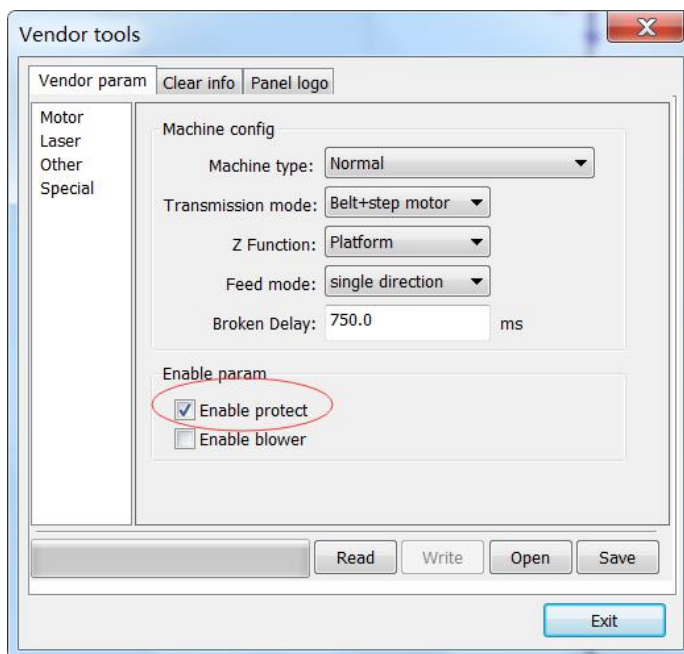
Section 4 Trial operation

CONTENTS:

- Non-metal distance controller trial operation
- Cutting test

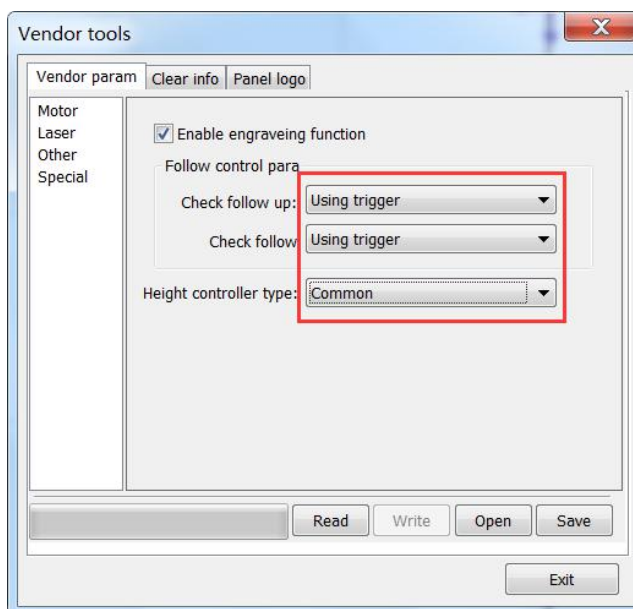
4.1 Non-metal distance controller trial operation

When finished to installed the non-metal distance controller connection, panel and main board. It is need to set correctly vendor paras and user paras of RDC633XM before running. In software of MetalCut, “file”—“vendor setting”—“other”, Click “Enable open cover protection” As showing in below:



In the software of MetalCut, “file”—“vendor setting”—“ special”

In the check follow up and check follow, choose “using trigger”, in the height controller type, choose “common”. To check the illustration as follow:



Be careful when operating for the first time. Please do the steps as below to :

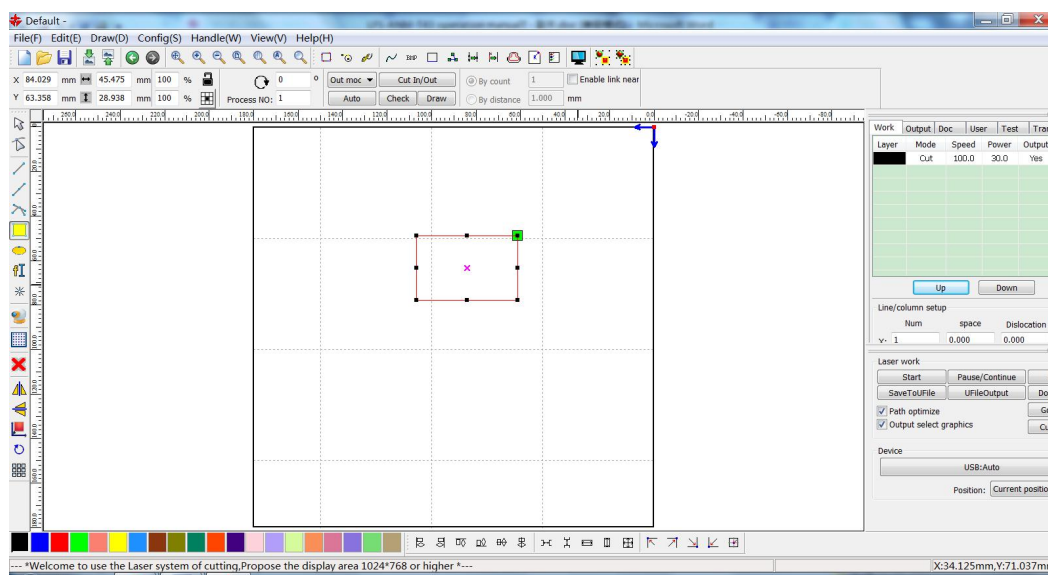
- 1) If it is a servo drive, please set the drive parameters according to the drive model, the specific operation can view to the drive instructions.
- 2) When power on, to set parameters of the non-metal distance correctly from vendor setting.
- 3) To check the limit switch is valid, manually trigger the upper and lower limit, if prompt "upper and lower limit trigger" that is normal, if the limit polarity is wrong, please modify the limit polarity.
- 4) Press the "Up" and "Down" buttons to observe the direction of movement of the cutting head. If the direction of movement is wrong, modify the "Motor polarity" parameter until the movement is normal.
- 5) Press the "follow button" button to open the following switch display as "following open", by manually controlling the "up", "down" to adjust the cutting head position to the detection range, press "." on the panel ", Then, the cutting head will go down to the focus position, press again, it will be go up.
- 6) If the above process is normal, you can try to cut.

4.2 Cutting test

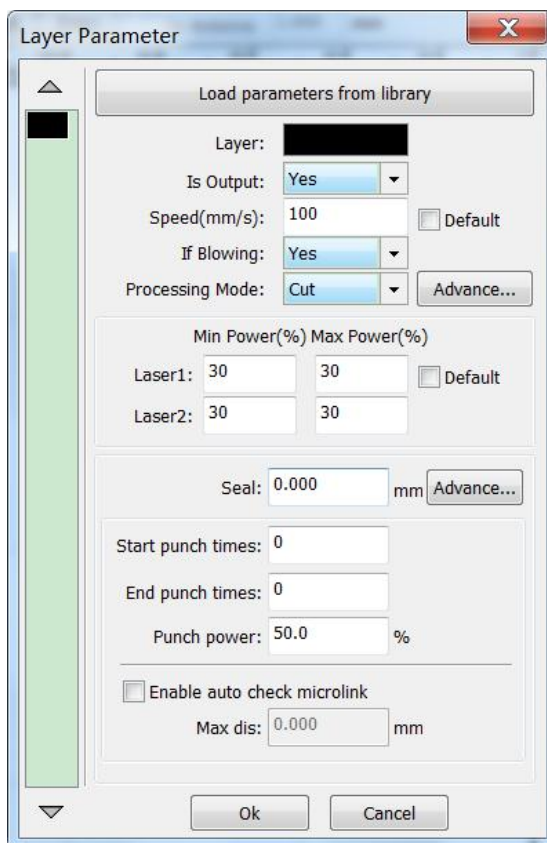
Before the cutting test, please ensure that the wiring is correct and the motherboard parameters are set correctly, X, Y axis motion test is normal, and has been successfully reset. Please view to RDC633XM motherboard and MetalCut User's Manual for details.

Follow the steps as below to cutting test:

Open MetalCut, on the left side of the software, use a common drawing tool to draw a simple graphic, take a rectangle as an example:



- 1) Set the layer parameters correctly:



After set a correctly vendor parameters, user parameters and processing parameters, which can be cutting.

- 2) To set the user parameters correctly:

Work	Output	Doc	User	Test	Transform
<input type="checkbox"/>			Cut parameters		
			Idle speed(mm/s)	200.000	
			Idle Acc(mm/s ²)	3000.000	
			Idle Delay(ms)	0.000	
			Start speed(mm/s)	20.000	
			Min Acc(mm/s ²)	400.000	
			Max Acc(mm/s ²)	3000.000	
			Acc factor(0%-200%)	100	
			GO Acc factor(0%-200%)	100	
			Speed factor(0%-200%)	100	
			Key setting		
<input type="checkbox"/>			Mixcut parameters		
			Follow up delay(ms)	0.000	
			Follow down delay(ms)	0.000	
			Follow finish delay(ms)	0.000	

- 3) Blow test

In the interface of non-metal distance controller, user can press "function" button to enter the "blow test", to test whether the normal cutting gas or not?.

- 4) Laser test

In the panel, press “Max power” to set pulse power. Press “pulse” to test whether the laser is normal or not.

5) positioning

To move the head to a cutting position .On the panel, press the "Position" button as a reference point.

6) Frame

After positioning, press “frame” bottom in the panel. The cutting head moves along the minimum rectangular boundary of the cut pattern, indicating that the cutting head does not exceed the rectangular range and ensures the safety of the cutting.

7) Cutting

When the functional tests are normal, press the "Start" button on the panel to start cutting.

Section 5 Alarm message descriptions

CONTENTS:

- Alarm information explanation
- System error
- Upper and lower limit trigger
- Reset error
- Beyond detection range
- Emergency stop
- Multiple errors

5.1 Alarm information explanation

In the non-metal distance controller operation may be encounter abnormal circumstances and then alarm, and produce the appropriate protection action protection the machine. Alarm messages include system errors, upper limit trigger, lower limit trigger, reset error, out of detection range, emergency stop, and multiple errors. When an error occurs, the relative error is indicated on the touch screen. If an error occurs, please follow the error message to eliminate the error before running the system, otherwise it may affect system working.

5.1 System error

When the system error does not work properly, it will show system error, then the system will stop moving. At this point need to re-power the non-metal distance controller, if the power is still repeated to show the system error, the non-metal distance controller is not normal.

5.2 Upper and lower limit trigger

When the limit is enabled, the limit trigger is displayed when the limit switch is triggered. If the cutting head does not trigger the limit switch, it always shows the limit trigger:

- ◆ Limit polarity setting error, please modify the limit switch polarity;
- ◆ Limit switch wiring is incorrect, please check the connection;
- ◆ The limit switch is damaged, or the limit switch output voltage is incorrect, replace the limit switch

5.3 Reset error

If reset error, it means system reset error:

- ◆ In the implementation of reset movement, the motor is not moving or moving too slow, leading to timeout exit. Please set the non-metal distance controller parameters, to ensure that non-metal distance controller can be normal operation.
- ◆ As the motor polarity is set improperly, the lower limit switch may be triggered during reset, causing the reset motion to exit

5.4 Beyond detection range

When the cutting head is out of the effective detection range of the sensor, it will show that the detection range is exceeded. The cutting head height can be adjusted to the appropriate position. If the false trigger is exceeded during the cutting process, please set the alarm filter coefficient reasonably.

5.5 Emergency stop

When the emergency stop input is low, an emergency stop is triggered. If the actual emergency stop input is not low, It will emergency stop:

- ◆ Terminal wiring is incorrect, please view to the correct wiring diagram wiring;
- ◆ Machine interference has big interference, leading to false trigger emergency stop, please connect the machine shell.

5.6 Multiple errors

When two or more errors occur simultaneously, "multiple errors" will be displayed. When multiple errors occur, you can view the detailed alarm information by clicking on the "Alarm Information" of the touch screen.

Section 6 Appendix

CONTENTS:

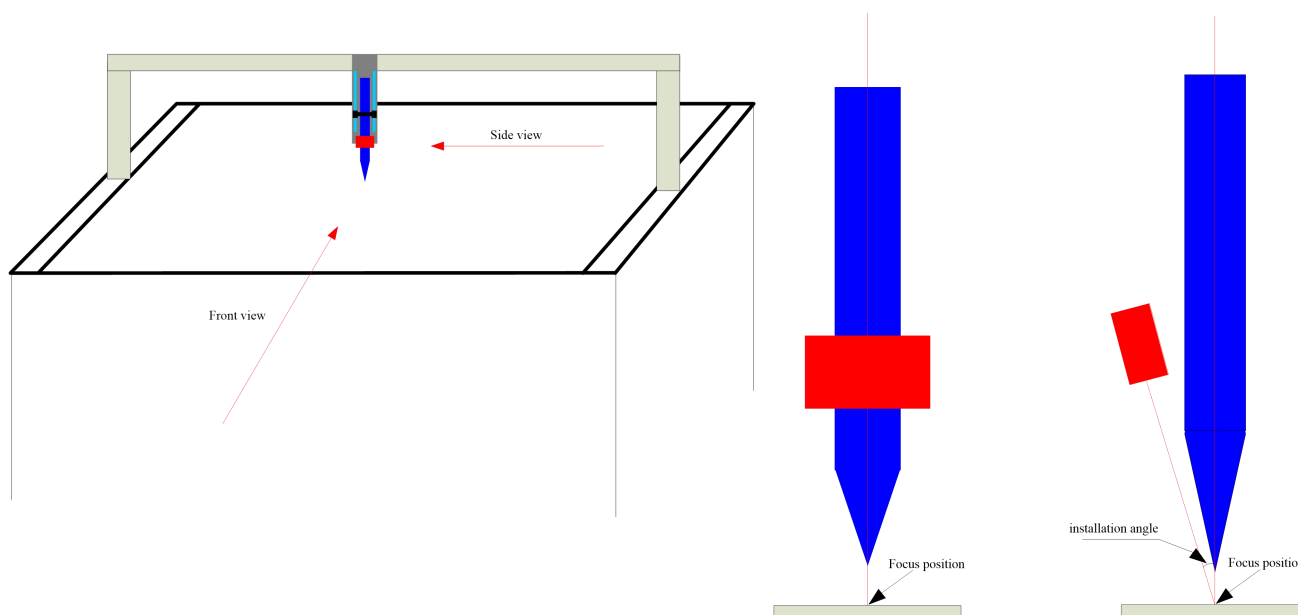
- Usual Fault & Disposing Method
- Installation method of sensor

6.1 Usual Fault & Disposing Method

Common Fault Phenomenon	Reason	Solution
Press the "Up" "Down" button, the cutting head does not work	Wrong connection of DIR+, DIR-, PULSE+, PULSE-	Please view the user manual to make sure the connection connect correctly
	Wrong parameters of servo driver	Setting servo driver according to instruction
	Do not set enable driver	Seting the drive to internal enable, or enable the drive externally via the pin
	Wrong connection of touch screen and non-metal distance controller	To check the touch screen connection
	Trigger emergency stop protection	Runing after the emergency stop signal is removed
	The motor "lost pace", the acceleration or speed is set improperly	Reduce the acceleration or speed
Touch screen display "Can not connect"	Wrong connection of touch screen and non-metal distance controller	To check the touch screen connect
	The touch screen does not match the nonmetallizer program	Please choose suitable controller
	non-metal distance controller port has damaged	—
	Touch screen port has damaged	—
The touch screen showing "CONNECT FAILURE"	The touch screen does not match the nonmetallizer program	Please choose suitable controller
Press "write",it cannot write down the parameters of non-metal distance controller	non-metal distance controller is running	Stop the movement, make sure that the cutting head is idle
	Wrong connection of touch screen and non-metal distance controller	To check the touch screen connection
When following,shaking serious	Big interference of machine	Do connection of PGND of non-metal distance controller and machine shell and GND
	The filter factor is set too large	Reduce the filter coefficient

	Servo drive rigid setting is too large	Reduces servo rigidity
Misoperation trigger beyond the detection range during cutting	Alarm filter factor is too small	To set suitable alarm filter

6.2 Installation method of sensor



The installation mode of the sensor is illustrated as shown in the figure above:

1. Adjust the cutting head focus. Make sure that the focus of the cutting head in the focal plane, and record the focus position.
2. installation of laser displacement sensor. When installed, moving the laser displacement sensor make the sensor emitted red spot irradiated with laser focus, adjust the height and position of sensor until the sensor showed real number is 0, the focus position is in the original position, the position of the sensor is properly installed.
3. if the mechanical condition is limited, the installation height can't be adjusted by 0. It can be installed in an appropriate position and record the display number of the sensor, and then set the focus shift through the touch screen, and it can also be used. The focus offset is set in range of + 10mm. Repeat the above operation to make a fine tuning and install the sensor in a reasonable position.

Special description:

1. When install the laser displacement sensor, try to make the sensor red light angle cannot be too much, the greater the tilt angle, the lower the detection accuracy. Therefore, the laser head of the nozzle part to try to fine and sharp, to ensure that try not to block the red light.
2. in order to ensure the safety of operation, we can use the touch screen to move the cutting head before starting the cutting. We must make the cutting head position in the sensor detection range or above the detection area.

in order to ensure the safety of operation, we can use the touch screen to move the cutting head before starting the cutting. We must make the cutting head position in the sensor detection range or above the detection area Thank you for your selection of our production!

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