ET9383ED-BB1

TWXBCB89

Desktop welding machine

use

Household

hand book

Thank you for choosing our products!

This manual gives a detailed introduction to the use of the automatic welding machine system, including system characteristics, component operations, programming

Take into account processing instructions, etc. Please read this manual carefully before using this control system and related equipment. This will help

For you to use it better! After reading, please keep it in a safe place for future reference.

Due to product upgrades or design changes, the products you received may differ from the statements in this manual in some respects.

Into. Without notice!

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Chapter 1 Safety Precautions

1.1 Safety symbol description

Serious warning	
	There is a risk of electric shock. Do not touch the parts that may be live, and non-professionals should not change it easily to prevent electric shock. When an emergency occurs, please press the red emergency stop switch immediately, and the machine will be disconnected from the power supply. Do not use when the power cord is damaged. When not in use for a long time, please turn off the power switch, cut off the power supply, and pull out the power plug. Pay attention to the status of the power supply when performing circuit maintenance. Please turn off the power before performing careful maintenance and inspection. This product uses a three-wire grounding plug, which must be inserted into a three-hole grounding socket. Do not change the plug or use an ungrounded three-head adapter to make the grounding poor. If you need to extend the wire, please use a grounded three-core power cord. Dangerous voltage inside the device! Inexperienced work is dangerous to life! When the system breaks down and needs to be repaired, only experienced and authorized experts can repair the equipment, or contact the agent or manufacturer.
	There is a risk of injury. Do not extend your limbs when the power is on or the machine is operating. Do not get the machine wet, and do not disassemble the machine or pull the power cord during use. Please pay attention to keep the machine and its surroundings clean, which will help reduce accidents.
	When repairing, be sure to cut off the power and air pressure, and non-professionals should not repair at will. This product is not an explosion-proof specification and is strictly prohibited to be used in a potentially explosive environment.
	Before use, please make sure that the heating controller components have been firmly fixed on the machine. It is strictly forbidden to stack flammable and explosive objects or gas solvents in the work area.
caveat	
	Do not move the movable parts by hand to avoid damage to the machine. Make sure not to touch the moving parts during work, otherwise it may damage the machine or cause an accident. During the operation of the machine, please do not arbitrarily reach into the equipment, which may cause injury to the user or cause substantial damage to the involved objects.

	When the machine is paused, please check the condition carefully before performing manual operations, otherwise it may cause injury to the user or cause substantial damage to the involved objects.
	When taking out the equipment and various accessories from the bag, if necessary, ask someone to assist in taking them out together to prevent the objects in the box from falling or causing accidents. Pay attention to the bracket or guard plate on the upper part of the machine to prevent head-to-head. After transporting to a suitable station, be sure to place the equipment on a flat ground to avoid accidents due to tilting.
	This product should be used or stored in a place with suitable temperature and humidity. The suitable temperature requirement is 0~40℃, the humidity requirement is 20%~90%(No condensation).
	This equipment is heavy, please place it in a single layer instead of stacking it to avoid damage or accidents. Do not stack objects within the working range of the machine. Before daily handling or moving, please make sure that the movable parts of the equipment have been fixed (such asX For safety reasons, the shaft should be fixed with sheet metal parts or rope) before being transported. After unpacking, before using, please make sure the movable parts of the equipment are fixed (such asX The shaft may be fixed by sheet metal or rope for safety reasons) has been removed before being used.
	Regular inspection, maintenance and repair of this product will help ensure the performance of the equipment and prolong its service life. Please follow the normal program to boot. Please check that there are obstacles in the movement range of the movement mechanism before starting the machine.
	Make sure to use air pressure that meets the specified rated voltage, current frequency, and specified pressure level. Make sure the air source is clean and clean. Please use suitable air pressure according to actual needs, it is recommended to use air pressure less than 0.7Mpa.
	note
	Do not discard the packaging and foam of the device. If you need to return the machine to the original factory or point of sale due to maintenance or other factors, you should fix and pack the machine in the original way. Please place the packaged machine upright, do not put it upside down or horizontally. The machine foam can only be placed in the packaging after it is reliably protected. The packaging is made of non-moisture-proof material. Please do not get wet or rain during transportation or storage.

After emergency stop or power failure 10s Please don't restart inside, otherwise it will cause damage to the drive.

1.2 Package opening and parts inspection

Unpacking method:

1.Carton:

① Place the carton upright on a level ground, and tear off the shock-absorbing fixed film of the outer packaging.

② Open the upper cover of the carton and take out the parts in the upper plastic foam partition

③ Take out the plastic foam, two or more people work together to lift the machine out from the bottom of the machine, move it to a suitable station, and place it firmly. The specific spare parts are shown in the table below.

2.Wooden packing:

① Place the wooden box upright on the level ground, and tear off the shock-absorbing fixed film of the outer packaging.

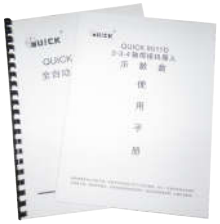
② Use an electric drill to take out the wood fixing screws of the wooden box, and open the upper cover and the surrounding covers.

③ Take out the parts, two or more people work together to lift the machine from the bottom of the machine, move it to a suitable station, and place it firmly.

④ After unpacking, before using, please make sure the movable parts of the equipment are fixed (such as X The shaft may be fixed by sheet metal or rope for safety reasons) has been removed before being used.

⑤ The specific spare parts are shown in the table below.

Parts List					
Serial number	name Weigh	type number	unit	Quantity	image
1	Heating controller	378FA	A	2	
2	Teaching box	9011D	A	1	
3	Teaching box connection line	DB9	A	1	

Parts List					
Serial number	name Weigh	type number	unit	Quantity	image
4	power cable	/	A	1	
5	Manual	User manual and teaching box say Bright	Share	2	
6	Tin dross box	9026	A	2	
7	Metal wire cleaning ball	/	group	1	
8	Button box	8031A	A	2	

Check carefully whether the machine and accessories are missing or damaged. If you have any questions, please contact the manufacturer.

Chapter 2 Product Overview

The automatic welding machine is a set of full three-dimensional, high-precision dedicated motion control system. In addition, the system provides users with

More convenient programming instructions, larger storage space, faster speed, richer parameter settings, and more efficient streaming

It also improves the production efficiency to a large extent. At the same time, according to the actual production needs, it can meet the requirements of sports performance indicators.

Under the premise, the product structure is optimized to meet the requirements of flexibility and speed in the operation process, and improve the product's availability.

Reliability.

2.1 System characteristics

Comprehensive three-dimensional support, including three-dimensional straight line, three-dimensional graphics teaching, three-dimensional custom array and other functions. Adopt trapezoidal acceleration and deceleration,

Speed forward-looking, micro-line segment interpolation and other technologies can realize arbitrary 3 High-speed continuous motion of a three-dimensional space curve.

Large storage area.

Custom array function. Easily cope with the deviation of mold and soldering tip replacement, and supports three-dimensional custom arrays. Change in motion

Speed and high-speed trajectory smoothing function, customizable corner speed up and down processing.

Group function. Multiple points can be quickly copied, deleted, corrected, arrayed, and translated.

Excellent teaching function. Support array expansion, graphical browsing, rotation, three-dimensional ellipse, insertion of commonly used graphics library, group

Advanced functions such as group editing, subroutine, and condition call subroutine.

The unique file connection function can realize complex multi-layer irregular array and non-array pattern interweaving processing.

Built-in temperature controller, simple appearance, small size, and space saving;

Resistive touch screen, display temperature, count, starting point correction, cleaning, reset function, convenient and quick;

XY The shaft adopts linear double guide rail design, which has strong load capacity and better stability;

Digital temperature calibration and password lock function to ensure the welding process;

The fixed element of the soldering pen has an elastic contact design and an adjustable angle, which can meet the welding requirements of different processes;

Built-in real-time temperature monitoring function, and communication function, can be connected with the computer, real-time monitoring and setting temperature, to ensure welding

Connection process;

With temperature alarm, tin shortage alarm function, foolproof design;

Exquisite cleaning of the welding tip, convenient and quick, prevents tin dross from splashing, and protects the product and working environment;

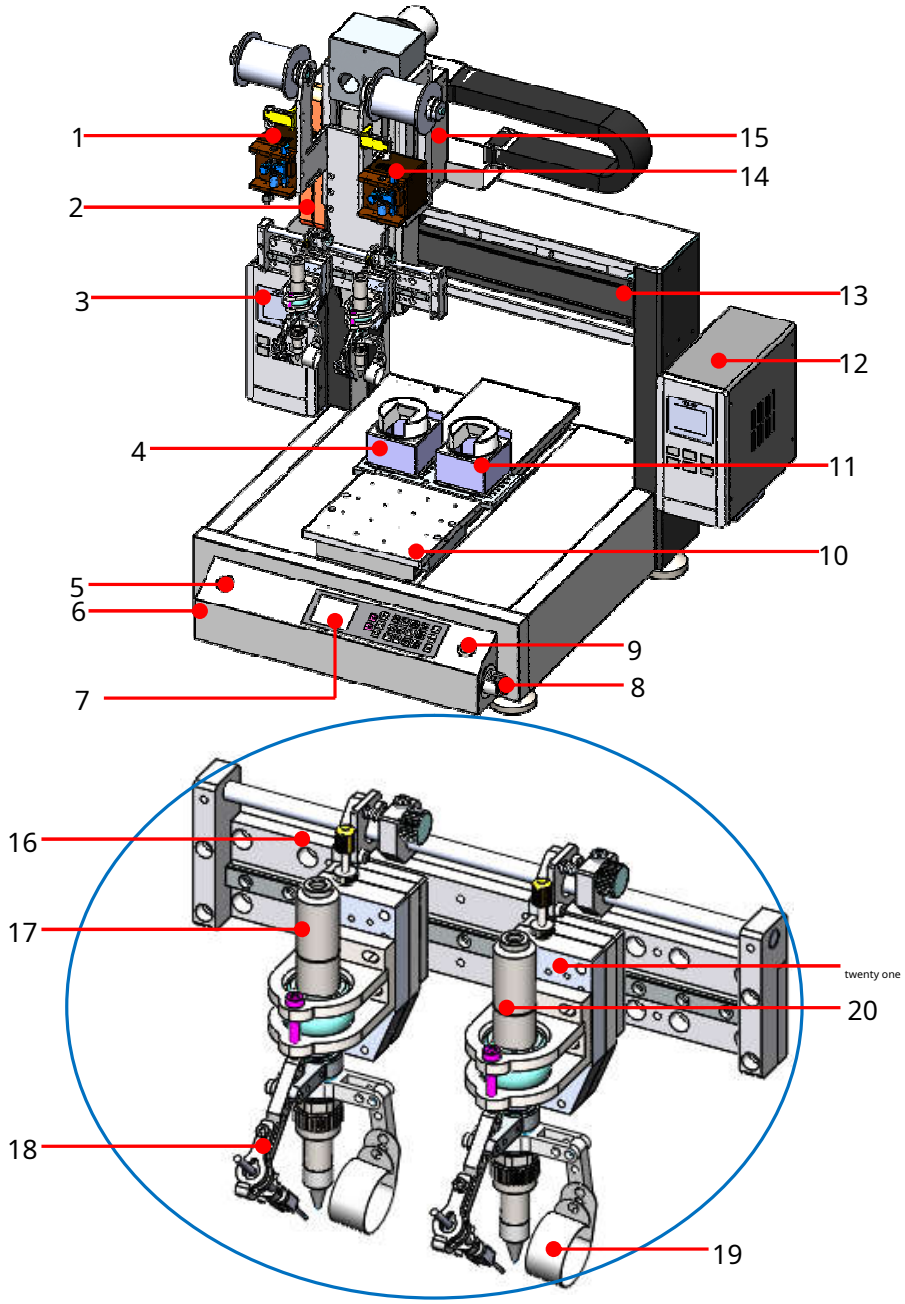
It provides multiple processing modes such as single-step operation, overall processing, simulation operation, and loop automatic processing.

2.2 The main technical parameters

model		ET9383ED-BB1-TWXBCB89
Rated voltage (AC)		110VAC, 50/60Hz
Machine power (W)		200
Motor control axis		3 axis
Axis dynamic range	X (mm)	300
	Y (mm)	300
	Z (mm)	100
	R (°)	--
Shaft speed range	X (mm/sec)	0.1~800
	Y (mm/sec)	0.1~800
	Z (mm/sec)	0.1~300
	R (°/sec)	--
Repeat accuracy	X/Y/Z axis(mm)	±0.01
	R Axis (°)	--
Resolution	X/Y/Z axis(mm)	0.01
	R Axis (°)	--
specified load	Workbenchkg)	8
	Head (kg)	5
storage capacity		255 Teaching files,60000 Points,128 Processing files
Coordinate type		Cartesian coordinates
Basic action control method		Point-to-point control (PTP)/Linear interpolation (CP)
Input and output interface		RS422,RS485,DB37
Programming method		Show tutorial design
noise		<70dB(Distance during no-load operation 1mMeasurement)
Use environment	temperature	0~40°C
	humidity	20%～90% (No condensation)
weight(kg)		60

Note: Ensure that the input voltage is consistent with the nameplate.

2.3 Parts description

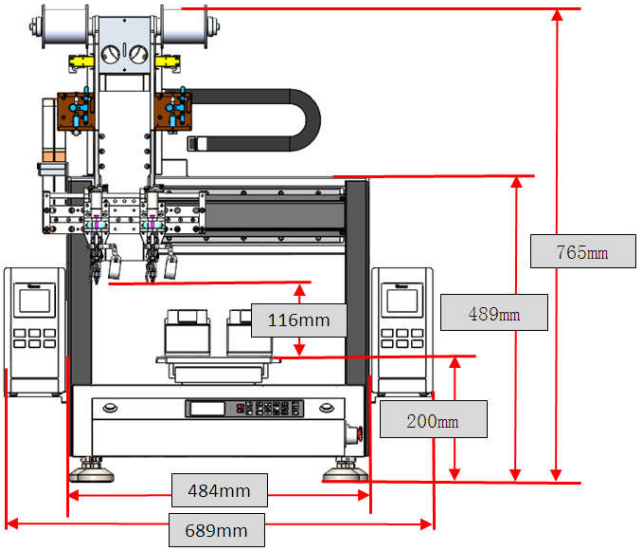


Serial number	name	Serial number	name
1	Left tin-out device	12	Right heating controller
2	Teaching box	13	X Shaft stepper motor + timing belt
3	Left heating controller	14	Right discharge tin device

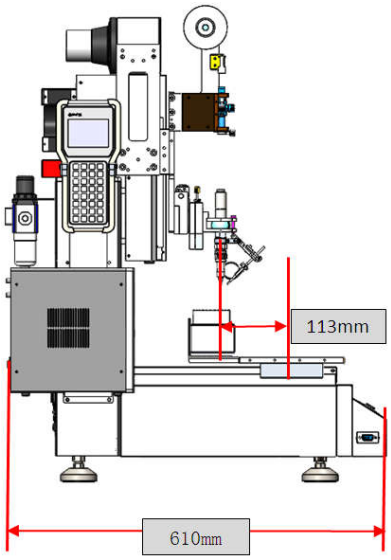
Serial number	name	Serial number	name
4	Left soldering iron tip cleaning device	15	Z Shaft stepper motor + timing belt
5	Left start/pause button	16	Adjusting mechanism for welding pen spacing (0-200 Adjustable spacing)
6	DB9 Interface (implementation standardRS422 through Communication Agreement)	17	Left soldering pen assembly
7	Operation panel	18	Left tin feeding bracket
8	Emergency stop button	19	Smoking hoop assembly
9	Right start/pause button	20	Right soldering pen assembly
10	Y Shaft closed loop stepper motor + synchronous belt	twenty one	Buffer mechanism
11	Right soldering iron tip cleaning device		

2.4 Dimensions

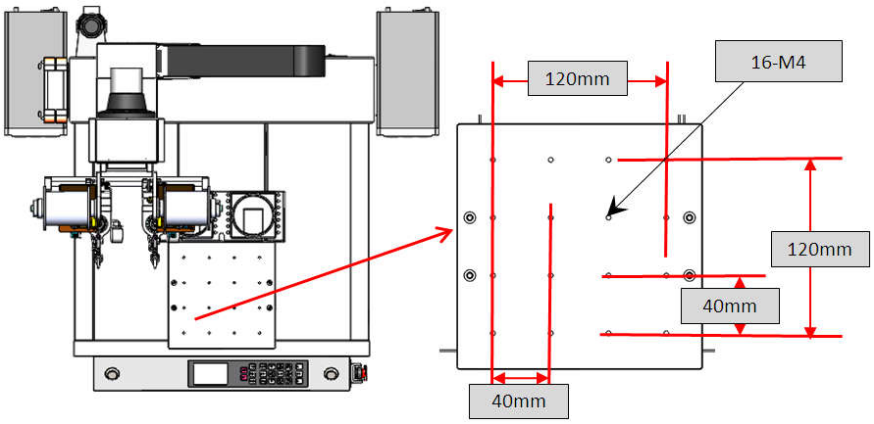
Main view



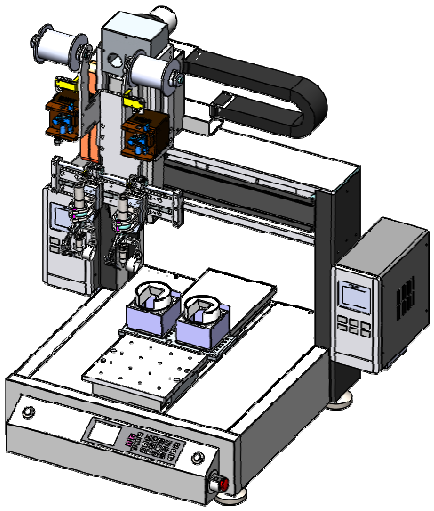
Left view



Top view

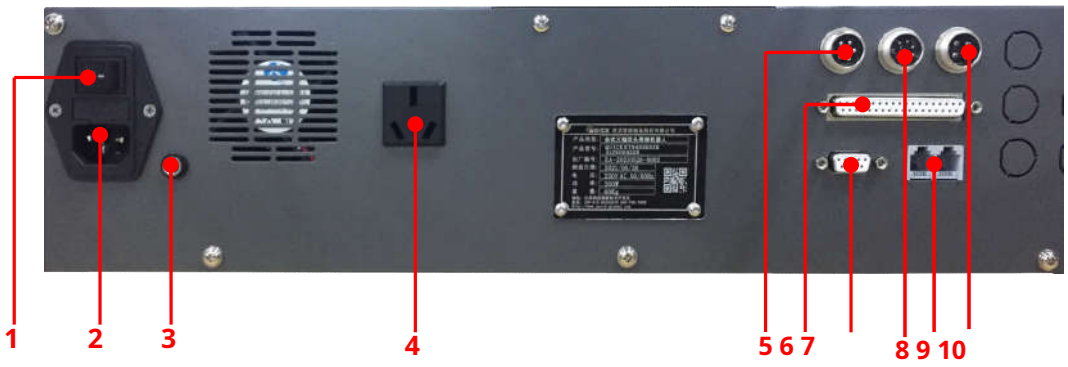


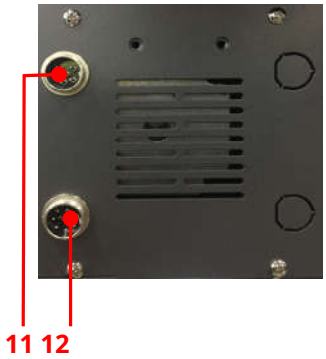
3D view

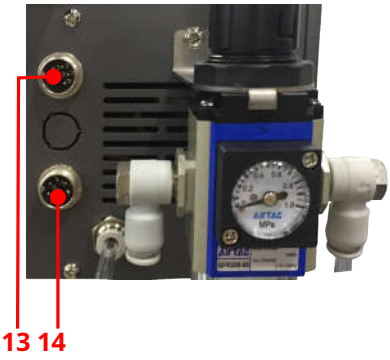


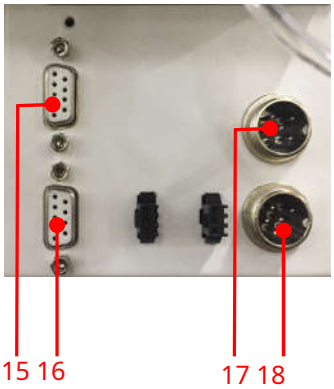
Chapter 3 Component Connection and Use

3.1 Device connection









1. Power switch: Control the on/off of external input power.

2. Power jack: connect to an external power source.

3. ESDSocket: The welding machine must have a reliable grounding.

4. Power socket: available 110VAC Output power.

5. Five-core metal socket: connect to the heating controller, please refer to the port pin function.

6. DB37 Socket: spare, reference for port pin function.

7. DB9 socket 1: Standby, reference for port pin functions.

8. Seven-core metal socket: connect to the heating controller, please refer to the port function.

9. RJ45 Socket: connect to the heating controller, port execution RS485 Standard communication protocol.

10. Four-core metal socket: connect to the button box, port pin function reference **3.2.2 Wiring instructions for four-core metal sockets.**

11. Six-core metal socket: connect to the right heating controller.

12. Eight-core metal socket: connect to the right heating controller.

13. Six-core metal socket: connect to the left heating controller.

14. Eight-core metal socket: connect to the left heating controller.

15. DB9 socket 2: Connect the left tin-out device.

16. DB9 socket 3: Connect the right tin-out device.

17. Six-core metal socket: Connect the left soldering pen.

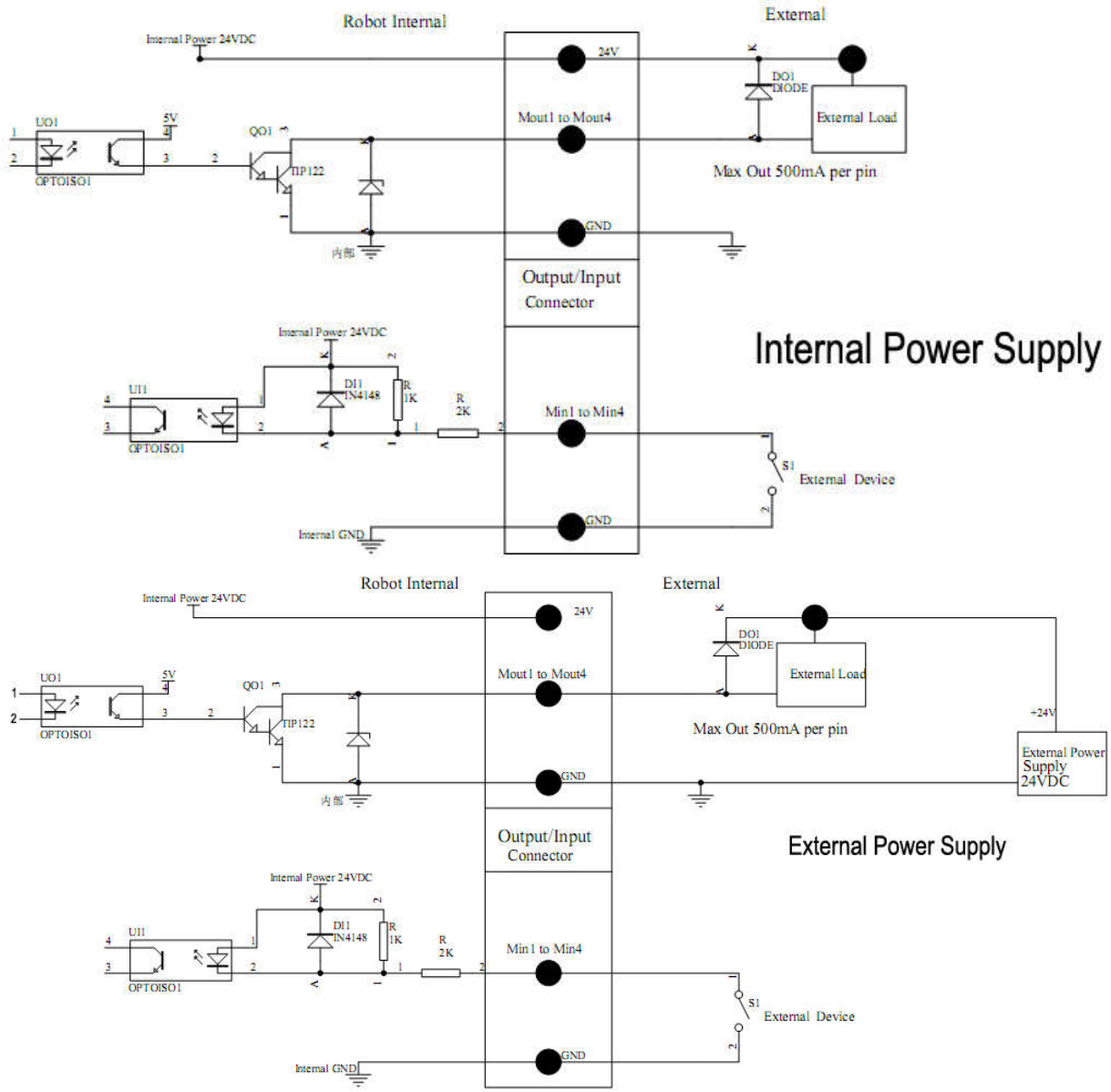
18. Six-core metal socket: Connect the right soldering pen.

by PUThe pipe connects the external air source and the pressure regulating valve together.

⚠Note: Connect the power cord after all cables have been connected.

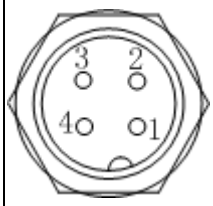
3.2 Socket description

3.2.1 Wiring instructions for the internal and external power supply of the socket



3.2.2 Wiring instructions for four-core metal sockets

The following table shows the signal input description of the four-core metal socket. The pin functions are as follows:



Pin number	Pin name	Description	Application of this device
1	Min4	Main input 4	Connection start/pause button.
2	GND	Power ground	
3	Min1	Main input 1	Connection reset button (ORG).
4	Emergency stop	Emergency stop	Connect the emergency stop button.

Remarks: For special needs, the input and output can be reset in the teaching box to define new functions.

3.2.3 Wiring instructions for five-core metal sockets

The five-core metal socket is used to connect to the heating controller, and the pin functions are as follows:

Pin number	Pin name	Description	Application of this device
1	24VDC	Power is positive	
2	GND	Power ground	
3	Min3	Main input 3	Can be used to connect safety signals
4	Ein13	Extended input 13	Connect the lack of material alarm signal
5	Ein14	Extended input 14	Connect temperature alarm signal

Remarks: For special needs, the input and output can be reset in the teaching box to define new functions.

3.2.4 Wiring instructions for seven-core metal sockets

The seven-core metal socket is used to connect to the heating controller, and the pin functions are as follows:

Pin number	pin name	description	Application of this device
1	24V	Power is positive	
2	GND	Power ground	
3	Mout1	Main output 1, The current is less than 0.5A Can be used	
4	Mout4	for main output 4, The current is less than 0.5A Can be	
5	Ein12	used for cylinder expansion input 12	Connect the blocking alarm signal
6	Mout2	Main output 2, The current is less than 0.5A Can be used for working status output	
7	Mout5	main output 5, The current is less than 0.5A Only valid in pulse control	

Remarks: For special needs, the input and output can be reset in the teaching box to define new functions.

3.3 DB37 Socket description

3.3.1 DB37 Pin function description

DB37 Pin number	DB37 Pin definition	DB37 Adapter board I/O mouth	DB37 Pin number	DB37 Pin definition	DB37 Adapter board I/O mouth
1	GND	P01	20	GND	P20
2	Eout8	P02	twenty one	Ein8	P21
3	Eout7	P03	twenty two	Ein7	P22
4	Eout6	P04	twenty three	Ein6	P23
5	Eout5	P05	twenty four	Ein5	P24
6	Eout4	P06	25	Ein4	P25
7	Eout3	P07	26	Ein3	P26
8	Eout2	P08	27	Ein2	P27
9	Eout1	P09	28	Ein1	P28
10	COM	P10	29	GND	P29
11	GND	P11	30	Ein16	P30
12	Eout16	P12	31	Ein15	P31
13	Eout15	P13	32	Ein14	P32
14	Eout14	P14	33	Ein13	P33
15	Eout13	P15	34	Ein12	P34
16	Eout12*	P16	35	Ein11	P35
17	Eout11*	P17	36	Ein10	P36
18	Eout10*	P18	37	Ein9	P37
19	Eout9*	P19			

Note: The above output interface with * can set special functions in the teaching box. The special function interface is described as follows:

Ready signal: when the machine enters the normal standby state (it can run once it receives the "start" signal), then

The output is turned on, otherwise it is not turned on.

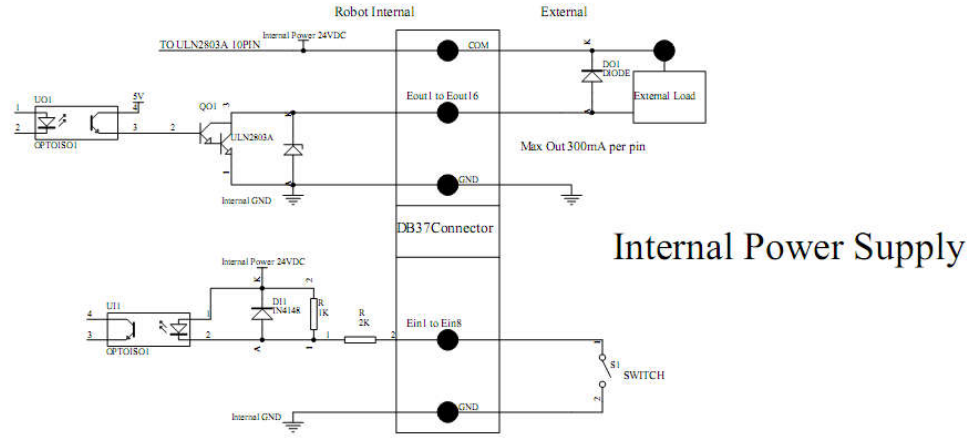
Alarm signal: indicates that the machine is set to an alarm state. Once an abnormal state is detected, the output will be turned on, otherwise it will not be turned on

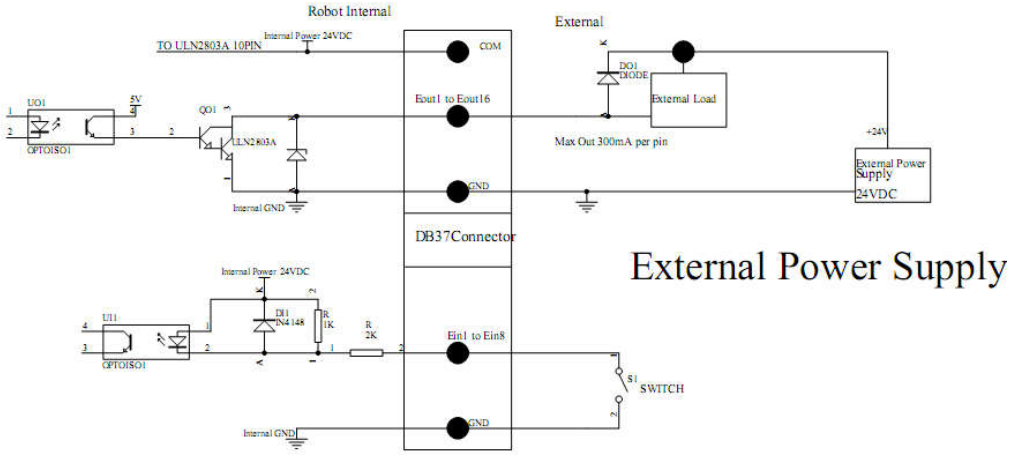
through.

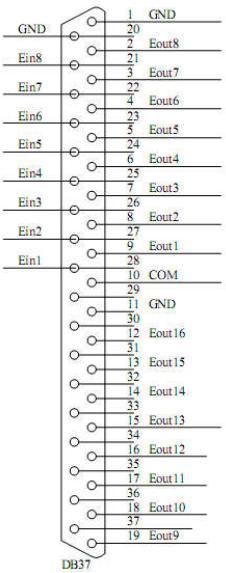
Running indication: It means that as long as the machine enters the state of processing motion, the output is turned on, otherwise it is not

turned on. End signal: indicates that once the machine is processed, the output is turned on200ms, Otherwise it will not conduct.

3.3.2 DB37 Connection circuit description

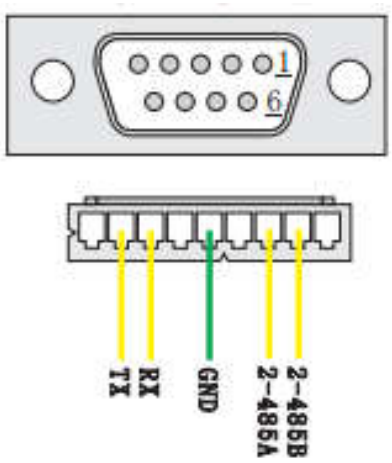




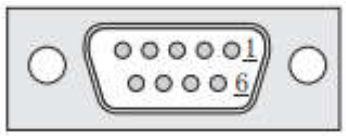


DB37 Connection diagram

3.4 DB9 Socket description



3.4.1 DB9 Pin function description



Serial number	Pin	Features	Serial number	Pin	Features
1	9P-1	not connected	6	9P-6	not connected
2	9P-2	TX(Connect to transmit signal)	7	9P-7	2-485A
3	9P-3	RX(Connection acceptance signal)	8	9P-8	2-485B
4	9P-4	not connected	9	9P-9	not connected
5	9P-5	GND(connect power supply "0V")			

3.5 Input and output port description

The following input and output interfaces correspond to the main input ports (Min)/Main output port (Mout)/Expansion input port (Ein)/ Extended output port (Eout). These input and output ports are connected with the "input and output test interface" of the function test of the teaching box.Min/ Mout/ Ein/ Eout Correspondingly, once set up, it can be tested before use. The following input and output interfaces must be in the teaching box "system configuration2"Settings. The input and output ports of the above sockets can be defined as the different functions listed in the following table.

3.5.1 Input and output port definition

1. In the input function setting interface of the teaching box, the input port can be set:

Input port	Definable function of each input port
Min1	--, Shortcut keys 1, Reset button, safety signal-1, Safety signal-2
Min2	--, Shortcut keys 2, Stop button, safety signal-1, Safety signal-2
Min3	--, Shortcut keys 3, Start button, safety signal-1, Safety signal-2, Material shortage signal, material blocking signal, temperature signal, temperature/feeding fault, cylinder sensor up, cylinder sensor down
Min4	--, Shortcut keys 4, Foot pedal, safety signal-1, Safety signal-2
Min5	--, Reset button, stop button, start button, foot pedal, safety signal-1, Safety signal-2, Material shortage signal, material blocking signal, temperature signal, temperature/feeding fault, cylinder sensor up, cylinder sensor down, air pressure signal
Min6	--, Reset button, stop button, start button, foot pedal, safety signal-1, Safety signal-2, Material shortage signal, material blocking signal, temperature signal, temperature/feeding fault, cylinder sensor up, cylinder sensor down, air pressure signal
Min7	--, Reset button, stop button, start button, foot pedal, safety signal-1, Safety signal-2, Material shortage signal, material blocking signal, temperature signal, temperature/feeding fault, cylinder sensor up, cylinder sensor down, air pressure signal
Min8	--, Reset button, stop button, start button, foot pedal, safety signal-1, Safety signal-2, Material shortage signal, material blocking signal, temperature signal, temperature/feeding fault, cylinder sensor up, cylinder sensor down, air pressure signal
Ein1~8	--, Shortcut keys 5-259
Ein1	--, Reset button, stop button, start button, foot pedal, safety signal-1, Safety signal-2, Material shortage signal, material blocking signal, temperature signal, temperature/feeding failure, cylinder sensor up, cylinder sensor down, air pressure signal, quick keys 5
Ein2	--, Reset button, stop button, start button, foot pedal, safety signal-1, Safety signal-2, Material shortage signal, material blocking signal, temperature signal, temperature/feeding failure, cylinder sensor up, cylinder sensor down, air pressure signal, quick keys 6
Ein3	--, Reset button, stop button, start button, foot pedal, safety signal-1, Safety signal-2, Material shortage signal, material blocking signal, temperature signal, temperature/feeding failure, cylinder sensor up, cylinder sensor down, air pressure signal, quick keys 7
Ein4	--, Reset button, stop button, start button, foot pedal, safety signal-1, Safety signal-2, Material shortage signal, material blocking signal, temperature signal, temperature/feeding failure, cylinder sensor up, cylinder sensor down, air pressure signal, quick keys 8

Ein5	--, Reset button, stop button, start button, foot pedal, safety signal-1, Safety signal-2, Material shortage signal, material blocking signal, temperature signal, temperature/feeding failure, cylinder sensor up, cylinder sensor down, air pressure signal, quick keys 9
Ein6	--, Reset button, stop button, start button, foot pedal, safety signal-1, Safety signal-2, Material shortage signal, material blocking signal, temperature signal, temperature/feeding failure, cylinder sensor up, cylinder sensor down, air pressure signal, quick keys 10
Ein7	--, Reset button, stop button, start button, foot pedal, safety signal-1, Safety signal-2, Material shortage signal, material blocking signal, temperature signal, temperature/feeding failure, cylinder sensor up, cylinder sensor down, air pressure signal, quick keys 11
Ein8	--, Reset button, stop button, start button, foot pedal, safety signal-1, Safety signal-2, Material shortage signal, material blocking signal, temperature signal, temperature/feeding failure, cylinder sensor up, cylinder sensor down, air pressure signal, quick keys 12
Ein09	--, Reset button, stop button, start button, foot pedal, safety signal-1, Safety signal-2, Material end correction XLimit, quick key 260, Cylinder sensor up, cylinder sensor down, air pressure signal
Ein10	--, Reset button, stop button, start button, foot pedal, safety signal-1, Safety signal-2, Material end correction YLimit, quick key 261, Cylinder sensor up, cylinder sensor down, air pressure signal
Ein11	--, Reset button, stop button, start button, foot pedal, safety signal-1, Safety signal-2, Material end correction Z Limit, quick key 262, Cylinder sensor up, cylinder sensor down, air pressure signal
Ein12	--, Reset button, stop button, start button, foot pedal, safety signal-1, Safety signal-2, Shortcut keys 263, Material shortage signal, material blocking signal, temperature signal, temperature/feeding failure, cylinder sensor up, cylinder sensor down, air pressure signal
Ein13	--, Reset button, stop button, start button, foot pedal, safety signal-1, Safety signal-2, Shortcut keys 264, Material shortage signal, material blocking signal, temperature signal, temperature/feeding failure, cylinder sensor up, cylinder sensor down, air pressure signal
Ein14	--, Reset button, stop button, start button, foot pedal, safety signal-1, Safety signal-2, Shortcut keys 265, Material shortage signal, material blocking signal, temperature signal, temperature/feeding failure, cylinder sensor up, cylinder sensor down, air pressure signal
Ein15	--, Reset button, stop button, start button, foot pedal, safety signal-1, Safety signal-2, Shortcut keys 266, Material shortage signal, material blocking signal, temperature signal, temperature/feeding failure, cylinder sensor up, cylinder sensor down, air pressure signal
Ein16	--, Reset button, stop button, start button, foot pedal, safety signal-1, Safety signal-2, Shortcut keys 267, Material shortage signal, material blocking signal, temperature signal, temperature/feeding failure, cylinder sensor up, cylinder sensor down, air pressure signal
Kin1	--, Cylinder sensor up, cylinder sensor down
Kin2	--, Cylinder sensor up, cylinder sensor down

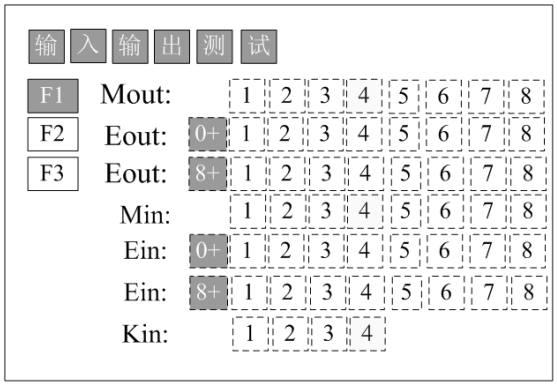
Kin3	--, Cylinder sensor up, cylinder sensor down
Kin4	--, Cylinder sensor up, cylinder sensor down

2. In the output function setting interface of the teaching box, the output ports can be

set: The functions of each output port can be defined	
Mout1~Mout8	--, Head 1, Head 2, Head 3, Head 4, Running instruction, end signal, cylinder, cleaning
Eout01~Eout08	--, Head 1, Head 2, Head 3, Head 4
Eout09~Eout16	--, Preparation signal, alarm signal, running indication, end signal, cylinder, cleaning, pause signal, left indicator light, right indicator light

3. In the teaching box, the output interfaceEout09~Eout16 Corresponds to "input and output test interface" and "OUTPoint setting introduction

Noodles Eout8+interface.



which is:"Eout8+1"Indicating extended output port Eout09,"Eout8+2"Indicating extended output portEout10,"Eout8+3"

Indicates extended output port Eout11, And so on.

"Ein8+1"Indicating expansion input port Ein09,"Ein8+2"Indicating expansion input port Ein10,"Ein8+3"Means

Expansion input Ein11, And so on.

3.5.2 Function description of input port and output port

Input port function	Input port function description
--	No specific function is defined.
Reset button	The reset signal is input to the motion mechanism through the corresponding signal pin, and the motion mechanism performs a reset operation.
Stop button	Input a stop signal to the motion mechanism through the corresponding signal pin, and the motion mechanism stops moving.
Start button	Input the start signal to the motion mechanism through the corresponding signal pin, and the motion mechanism starts (or pauses) the processing operation.

Foot pedal	Input the pedal signal to the motion mechanism through the corresponding signal pin, and the motion mechanism executes the task according to the pedal signal, and its function is similar to the start key.
Safety signal-1	Through the corresponding signal pin input "to ground" to the movement mechanism, the movement mechanism enters the debugging state (cannot move, only programming).
Safety signal-2	Through the corresponding signal pin input "to ground" to the movement mechanism, the movement mechanism enters the debugging state (cannot move, only programming).
Material shortage signal	Input the lack of material signal to the motion mechanism through the corresponding signal pin, and the motion mechanism executes the corresponding operation after detecting it (pause, alarm, etc.) after the processing of a certain processing point is completed.
Blocking signal	Input the blocking signal to the motion mechanism through the corresponding signal pin, and the motion mechanism will execute the corresponding operation after detecting it (stop processing immediately, alarm, etc.).
Temperature signal	Input the temperature signal to the motion mechanism through the corresponding signal pin, and the motion mechanism will execute the corresponding operation after detecting it (stop processing immediately, alarm, etc.).
Temperature/Feeding barrier	Input the "temperature failure or feeding failure" signal to the motion mechanism through the corresponding signal pin, and the motion mechanism will execute the corresponding operation after detecting it (stop processing immediately, alarm, etc.).
Cylinder sensor on	Input the "cylinder sensor (retracted state)" signal to the motion mechanism through the corresponding signal pin, and the motion mechanism judges whether the cylinder is retracted in place.
Cylinder sensor under	Input the "cylinder sensor down (extended state)" signal to the motion mechanism through the corresponding signal pin, and the motion mechanism judges whether the cylinder extends in place.
Material end correctionX Limit	Dispensing models are not used. Corresponds toEin09 Input port, through the input port output signal to the material headX The axis position is automatically corrected. (Note: onlyX/Y/ZThe three axes can be calibrated at the same time to correct the position of the material head. Connect only"9036 "Tip position correction device" is valid.)
Material end correctionY Limit	Dispensing models are not used. Corresponds toEin10 Input port, through the input port output signal to the material headY The axis position is automatically corrected. (Note: onlyX/Y/ZThe three axes can be calibrated at the same time to correct the position of the material head. Connect only"9036 "Tip position correction device" is valid.)
Material end correctionZlimit Bit	Dispensing models are not used. Corresponds toEin11 Input port, through the input port output signal to the material head ZThe axis position is automatically corrected. (Note: onlyX/Y/ZThe three axes can be calibrated at the same time to correct the position of the material head. Connect only"9036 "Tip position correction device" is valid.)
Hotkey	Corresponding to the shortcut number under the processing file, the shortcut number can be set in the "shortcut number" option of the teaching box file processing interface. Used to quickly find the corresponding file on the machine.
Hotkey 1	Corresponds toMin1 Input port

Hotkey 2	Corresponds toMin2 Input port
Hotkey 3	Corresponds toMin3 Input port
Hotkey 4	Corresponds toMin4 Input port
Hotkey 5~259	Corresponds to Ein1~Ein8 Input port, namelyEin1~Ein8 This 8 The high and low level state structure of each input port to make 255(1~255) Kinds of combinations, its value plus 4 That is, the shortcut key value represented by this combination.
Air pressure signal	Air pressure status signal

Output port function	Output port function description
--	No specific function is defined.
Feed 1	Indicates the material head of the machine 1 Once the program is executed, the output is turned on, otherwise it is not turned on.
Feed 2	Indicates the material head of the machine 2 Once the program is executed, the output is turned on, otherwise it is not turned on.
Feed 3	Indicates the material head of the machine 3 Once the program is executed, the output is turned on, otherwise it is not turned on.
Feed 4	Indicates the material head of the machine 4 Once the program is executed, the output is turned on, otherwise it is not turned on.
Ready signal	Indicates that the machine enters a normal standby state, that is, the output is turned on. Once it receives the "start processing" signal, it can run, and the output will be automatically turned off after it starts running.
Alarm	Indicates that the machine is set to an alarm state. Once an abnormal state is detected, the output is turned on, otherwise it is not turned on.
Operation instructions	It means that as long as the machine enters the state of processing motion, the output will be turned on, otherwise it will not be turned on.
End signal	Indicates that once the machine is processed, the output is turned on 200ms, Otherwise it will not conduct.
cylinder	It means that once the machine executes the cylinder movement, the output will be turned on and the cylinder will be controlled, otherwise it will not be turned on.
Cleaning	Means that once the machine executes the cleaning program, the output is turned on and the cleaning action (blowing or rotating the brush) is performed, otherwise it is not turned on.
Pause signal	Output signal during pause
Left indicator	doubleYWhen the left button box is pressed, the status signal of the indicator light
Right indicator	doubleYWhen the right button box is pressed, the status signal of the indicator light

Note:1, In order to ensure the normal operation of the machine, the above setting operations are completed by our company's professionals and are not open to users.

2, The above functions are subject to change without notice.

Chapter 4 Debugging and Use

4.1 Debugging steps

4.1.1 Safety check before operation

 When checking the circuit, if there is a broken circuit or a part is wet, please do not turn on the power immediately! When you need to remove or repair, please find a professional to operate!

 Pay attention to the safe use of electricity to prevent the danger of electric shock.

When the machine is newly installed or idle for a long time, the following safety must be done before energizing and ventilating the machine and operating it.

Full inspection:

1, Check whether the power supply is at the rated voltage.

2, Check whether the equipment is properly grounded.

3, Make sure that no extraneous objects are left on the movable parts of the electrical cabinet and the machine.

4, Check whether the moving part is fixed.

5, Check whether the emergency switch is pressed.

6, Check whether the main power switch is inOFFstatus.

7, Push and pull the movable part by hand to check whether the movement is smooth.

8, Check whether the wiring plugs and air pipes are well connected, and whether there is any air leakage.

4.1.2 first time using

If it is the first time to use, perform function test and adjustment according to the following steps before use.

The first step: installation and function test

Before use, you need to connect and install all parts correctly.

First, please use the test function of the teaching box to test whether the basic functions of the system are normal (refer to "Function Test of the Teaching Box User Manual"). Including: Whether the positive and negative axial movement of each axis is normal.

Step 2: Set system parameters and system equipment instruction parameters

Set the system parameters and the parameters required for the operation and use of the equipment. For the setting of system parameters, please refer to "System Parameter Setting" in the teaching box manual.

Note: Be sure to set these parameters correctly! Otherwise, it may cause difficulties for further use.

Step 3: Show the tutorial design

To teach a graphic, please refer to "Quick Start of Tutorial-based Design in the User Manual of the Teaching Pendant".

Step 4: Starting point calibration and setting file parameters

1. Starting point correction: The starting point of the teaching file generated for the first time needs to be corrected. Please refer to teaching for the process of starting point correction "Start point calibration" in the box manual.

2. For setting file parameters, please refer to "Teaching File Parameters" in the teaching box manual.

Step 5: Download and process

1. Download: Please refer to "File Download" in the teaching box manual.

2. Processing: Please refer to the "File Processing Operation Instructions" in the teaching box manual.

4.1.3 Debugging steps


When debugging the machine or when the machine is running, pay attention to the high temperature near the soldering iron tip, and do not touch it directly!

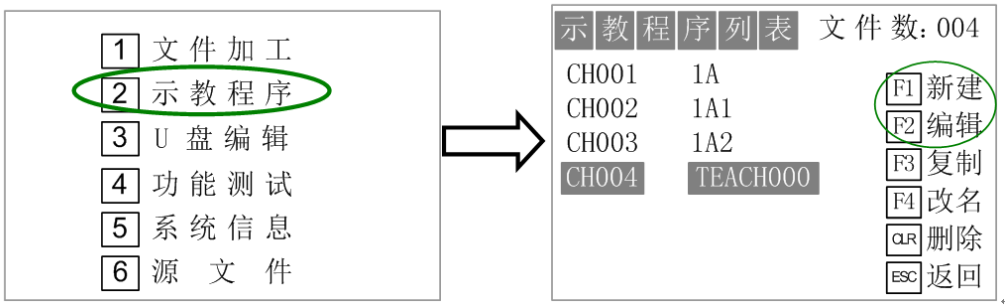

When the machine is in motion, do not put your hands in or touch the moving parts to prevent your hands from being caught!

1. After connecting all the interfaces, connect the power cord and connect the vent pipe to the input end of the oil-water separator.

2. Turn on the switch knob and open the pressure regulating valve of the oil-water separator to the appropriate air pressure.

3. Press "on the main interface of the teaching box7"Press the button to enter the temperature control setting interface, by clicking "SHIF"Press to close the soldering station.

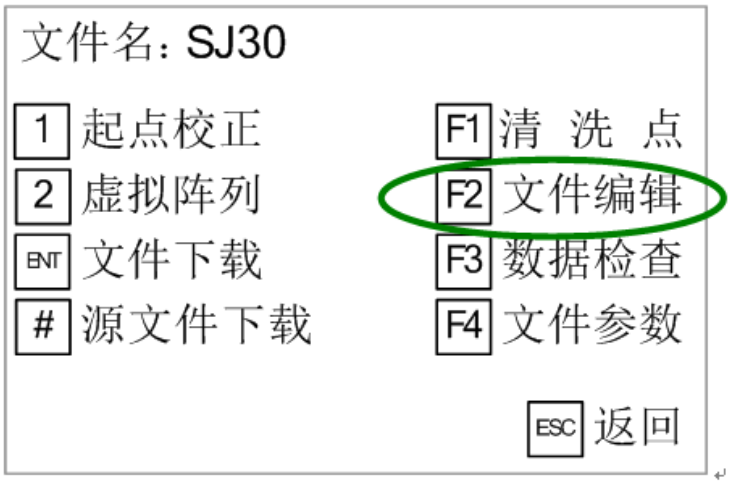
4. In the teaching box file editing, insert the isolated point and move the position of the isolated point to the welding position. The specific operation is as follows: Select on the main interface of the teaching box2"Show tutorial style"



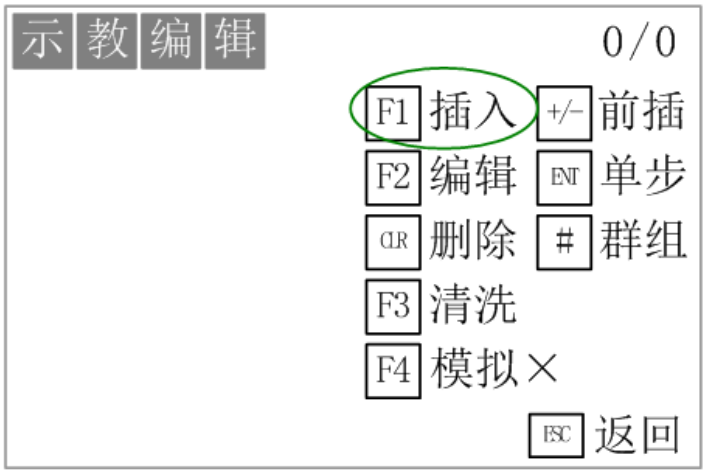
① →After entering the tutorial-style menu, click "F1"Enter the new file interface and enter the file name (the file name can be

Therefore, it can only be a maximum of eight digits for letters, digits, or a mixture of letters and digits), click "ENT"save.

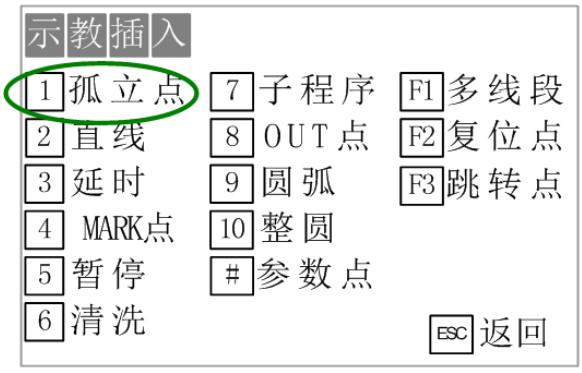
② Click "F2"Edit the relevant parameters of the new file, click on the picture below F2 After entering the interface.



③ →After entering the file menu, click "F2"File editing.



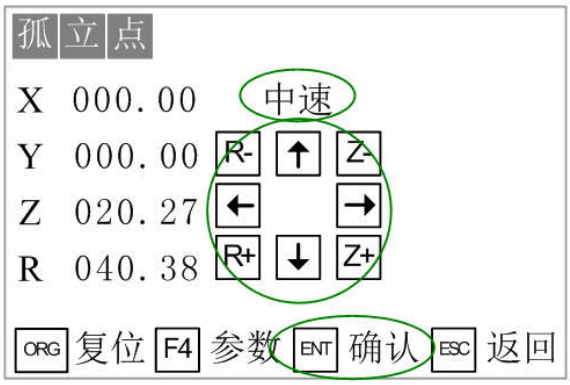
④ →After entering the file editing interface, select 1"insert".



⑤ → Then select 1"Isolated point".

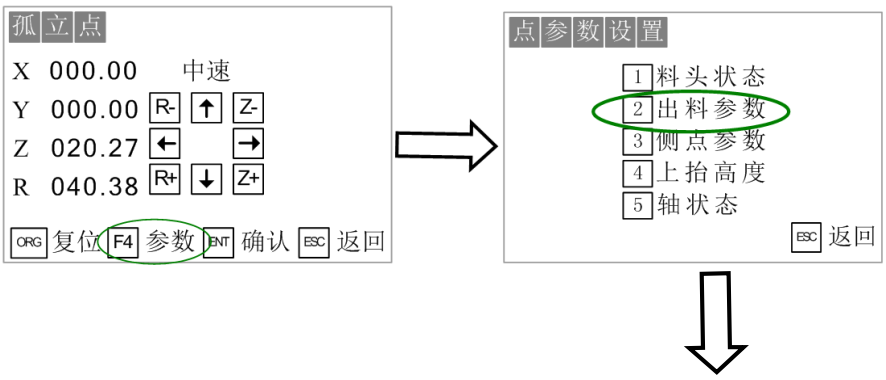
⑥ →The interface automatically returns to the teaching editing interface, on the left 001 The isolated point is a newly inserted isolated point.

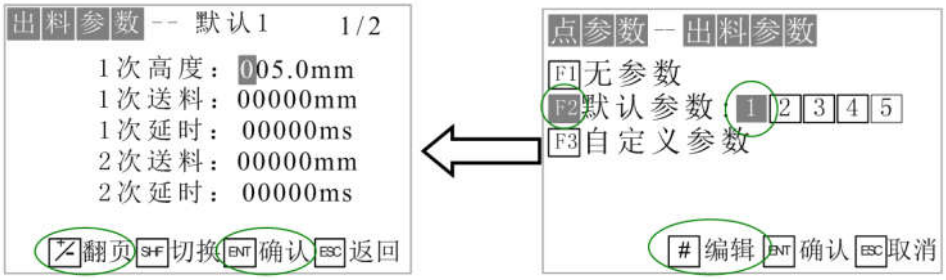
⑦ →Move the direction movement key on the teaching box (↓→↑← etc.), select the inserted isolated point, the state is shown in the figure above To have selected this isolated point, click "F2"Enter the isolated point interface as shown in the figure below.



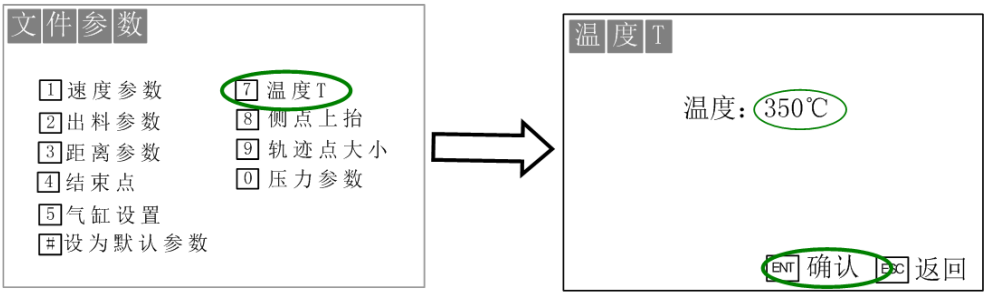
⑧ →After entering the point editing interface, move the direction movement key on the teaching box (↓→↑← etc.),SHF Key to adjust the moving speed (low, medium and high). Move the welding tip to the point to be welded, click "ENT"Save the point coordinate value.

⑨ Set the parameters of the welding point (take the isolated point as an example): enter the isolated point, select the parameter setting (for this part, please refer to the "Instructions for Welding Machine Teaching Box"), and set the feeding height, feeding length, and feeding delay here. The feeding height is the lifting height of the soldering iron tip between two feedings, and the feeding length indicates the length of tin feeding during processing. During one feeding, the soldering iron head stays at the height of the first feeding; one time delay means: no feeding, the soldering iron tip falls to the isolated point of soldering, and the solder joint is heated and tinned; the second feeding represents supplementary feeding, and the soldering head stays at the isolated point. , The residence time is the second delay time, and the three feedings are consistent with the above feeding content. The specific operation method is shown in the figure below:

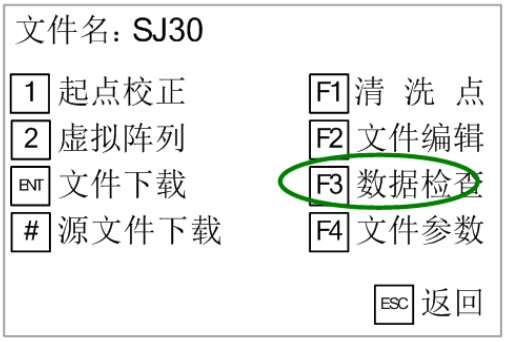




In the teaching file interface, click "F4"After entering the file parameter interface, press"7"Set the welding temperature, and confirm after setting the temperature.



⑩ →After the point determination in the previous step is completed, return to the teaching file menu, press first F3 Check the data, check the program for errors that exceed the limit, click and display "Data is normal!" to continue; if the check result is not normal, return to the file to edit, adjust the points, and modify the ones that exceed the limit. Point.



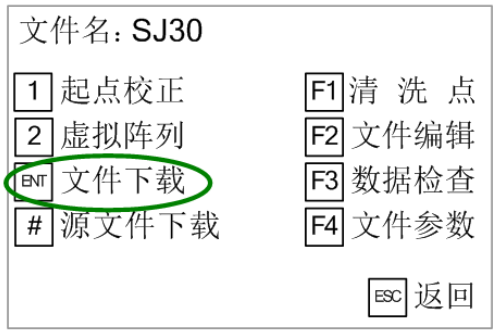
5. Adjust the angle of the tin needle so that the needle is straight to the center of the heating tip of the soldering iron, and the distance between the tip of the needle and the soldering iron is approximately 0.5~1mm Otherwise, if the temperature is too high during heating, the needle will stick to the soldering flux, which will cause the tin to not flow smoothly. If soldering in-line pins, the pins should not be clamped between the soldering pin and the soldering iron tip, otherwiseZ After the shaft is lowered, the tip of the soldering iron is easy to get stuck at the pin. The direction and angle of the universal ball at the fixed position of the tin-out needle can be adjusted.

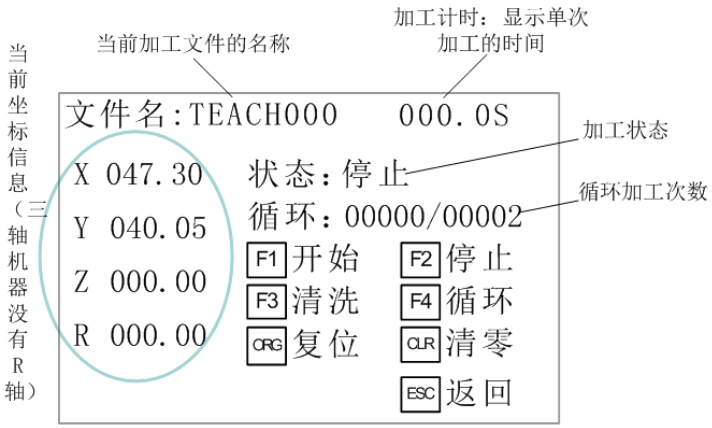
6. Adjust the position of the soldering iron tip, move the isolated point so that the soldering iron tip is close to the soldering point, and at the same time move the soldering handle upwards by hand Lifting, there is a buffer mechanism at the handle. In order to prevent hard contact with the product, lifting the buffer mechanism is on the one hand to simulate the motion situation and prevent interference during movement and find it in time, on the other hand, to prevent the product from being forced to the product by the low pressure of the moving position. Raise and lower the handle along the buffer mechanism several times, and move the point to make it more precise. After selecting the location of the isolated point, you can press OK, and then run it once to see if the movement is smooth.

7. After adjusting the position and parameters, start welding. Then run the program, the method is as follows: After the parameters and points are determined, return to the teaching file menu and pressENT Download the file. After the download is complete, the

Enter the file processing interface automatically. Choose Start to start running the edited isolated point program.**Note: When the download is complete, the temperature control preset**

Is open.





After soldering, observe whether the soldered points meet the requirements, and modify and adjust the soldering parameters.

4.2 Interrupt and continue processing

1. Function: If the current processing operation is interrupted unexpectedly, the work can be resumed from the interruption point after the elimination process.

2. Interruption to continue processing operation mode: After eliminating the interruption accident, press the "start" key to be greater than 2 Seconds, the machine is from memory

Start working at the interruption point; if the time of pressing the "start" key is not greater than 2 Seconds, the machine still starts from the starting point

jobs.

3. According to the different ways of triggering the interrupt, the interrupt can be divided into the following situations:

Disruption category		Interrupt mode number	Stop method
1	Press "Stop STOP"key	A/B/C/D	Stop now
2	Press "emergency stopEMERGENCY"key	A/B/C/D	Stop now
3	Press "ResetORG"key	A/B/C/D	Stop now
4	Press "Pause PAUSE"key	A/B/C/D	Stop now

Disruption category		Interrupt mode number	Stop method
5	"Lack of material" alarm*	A/B/C/D	Stop now
6	"Material blocking" alarm*	A/B/C/D	Stop now

⚠note:

If the emergency stop button triggers the interrupt, the emergency stop switch must be pulled out and the reset button is pressed before subsequent actions can be performed.

The above "interrupt type" is only suitable for processing in the process of processing, in the programming debugging mode with "*" does not work.

4. According to the method of stopping work when the current processing operation is unexpectedly interrupted, the interruption form number can be divided into

A/B/C/D, Its definition is described in the following table:

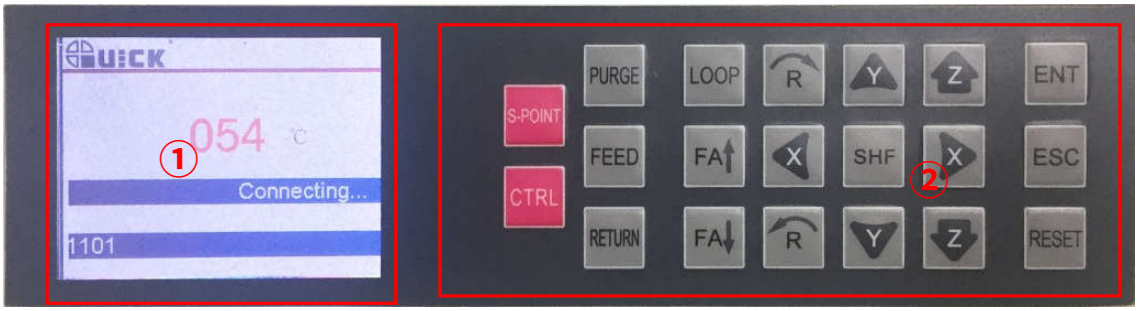
Interrupt stop mode

Interrupt mode number	Where the interrupt occurred	Position to continue processing after interruption
A	Feeding has started to within the distance of welding completion	Skip the work point during interruption and go directly to shipment Next processing point
B	During idle movement	Go directly to the next processing point
C	During pause	To run the next processing point
D	Within the lift height distance	To run the next processing point

⚠Note: If the power is interrupted during the operation, it is not possible to continue processing after the interruption processing.

chapter Five Operation panel

5.1 Operation panel overview



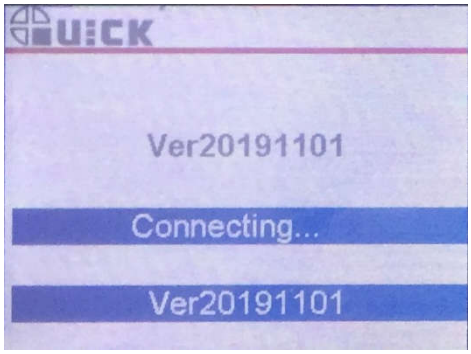
① Display area

Display temperature, communication status and version information and other related content.

② Operation button

Operation buttons	Features	Operation button	Features
RETURN	Back tin button	Y Y	Y Axis running direction button
PURGE	Tip cleaning function	Z Z	Z Axis running direction button
FEED	Send tin button	SHF	Speed control button
LOOP	Loop processing button	ENT	OK button
FA FA	Cylinder open/close button (conventional For screw machine)	ESC	Back button
R R	R Rotation direction of shaft motor	RESET	Reset button (the device will automatically Reset to the preset origin)
X X	X Axis running direction button	CTRL	Heating controller switch button
S-POINT	Welding tip back to the starting point of processing button		

5.2 Main interface (when communicating with teaching box)



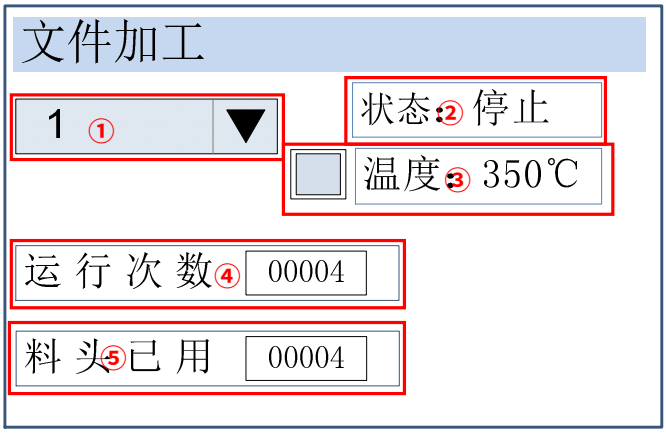
● Power on the device.

● Connect the cable of the teaching box toRS422 port.

● Display information such as version number, communication status, etc. The operation buttons do not work.

5.3 Main interface (when the teaching box is not communicating)

When the teaching box is not connected to the device, it will automatically jump to the file processing interface, as shown in the figure below:



① Display the current processing file name

By clicking SHIF Press the key to select the file name.

② Running status

Real-time display of device operating status.

③Temperature

Display the current temperature value of the welding tip, the user can click "CTRL"Press to select this function.

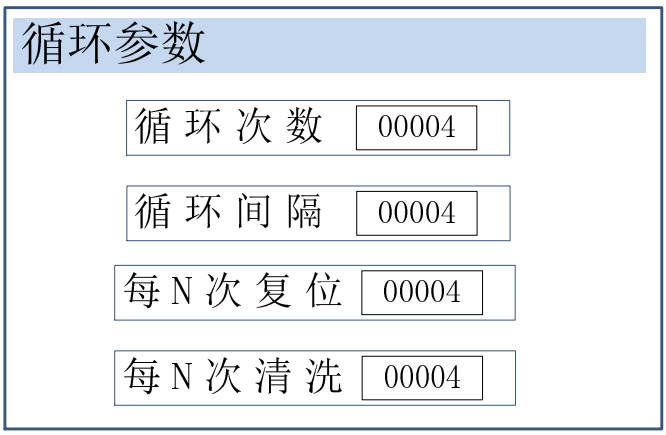
④Run times

A counter for the number of times the equipment is operated

⑤The material head has been used

The soldering iron tip uses a counter.

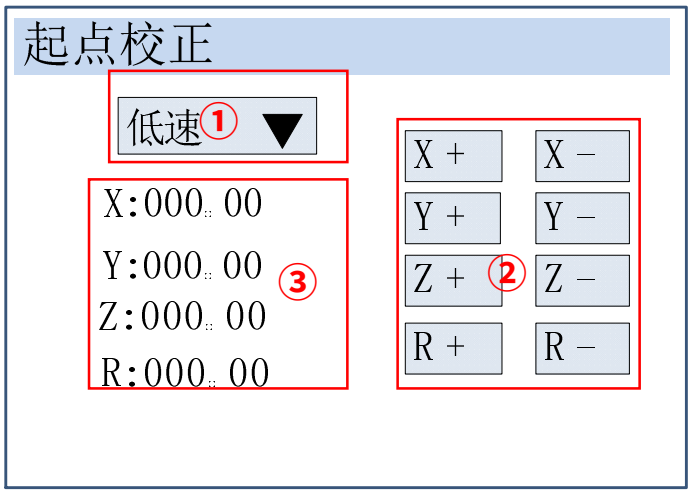
5.3.1 Loop parameter interface



● Click "LOOP"Button will directly enter the loop parameter setting interface, as shown in the figure above.

● Click  Press the button to change the number of digits, click  Change the digit size.

5.3.2 Start point calibration interface



Click "S-Point"Press the button to directly enter the starting point calibration interface, as shown in the figure above.

① Speed control symbol

The user can select the speed (high speed, low speed, medium speed) through the drop-down list.

② Jog symbol

The user can click the axis operation button  Control the jog side of the running axis to.

③ Display area

Real-time display of welding tip coordinate value.

Chapter 6 Failure and Maintenance

6.1 Troubleshooting

Serial number	Fault type	the reason	solution
1	System startup does not reset	Please check if the emergency stop button is pressed	Release emergency stop and press reset
2	During processing Z Shaft or XY Inaccurate axis positioning	The load is too heavy or the speed is too fast	If a certain axis misalignment phenomenon is particularly obvious Obviously, reducing the acceleration of this axis can slow down Solution to this phenomenon. Reduce speed and acceleration Processing after small
3	The motor works abnormally	Motherboard program problem or motor broken.	First, drive the motors of several axes on the board The signal lines are interchanged. If the fault occurs according to In the old, the motherboard program problem was ruled out, and then Connect the motor wires of several axes on the drive board Exchange. If the good shaft is changed to the bad The above is also bad, that means The drive is broken, if the broken shaft is replaced with a better one The upper part is still bad, then it means that the electricity If the machine is damaged, just replace it with a new one.
4	The LCD on the panel keeps showing Show EMERGENCY STOP PLEASE RESET.	Not reset or the relay on the power supply board The appliance is broken.	Please unscrew the emergency stop button first, and press reset key. Then it should be eliminated, and often. If you still can't after trying Is a relay on the power board broken.
5	Turn on the fuse to blow.	If replacing the fuse still occurs The fault may be that the motherboard is broken.	Replace with new products
6	The motor is at the origin when reset Jitter.	The photoelectric switch is broken or the driver board has problem.	Replace the photoelectric still failure is the drive The problem.
7	X The axis only goes in one direction movement.	GenerallyXThe drive plate of the shaft is broken to make.	Replace with new products.
8	The machine keeps alarming.	If the alarm still remains after troubleshooting It may be that the emergency stop switch is broken or the report The warning signal did not respond.	Press emergency stop to see if it will power off, check Whether there is a fault.
9	The drive motor drive shaft is broken crack.	Due to long-term forced operation, the drive The screws of the shaft and the base are loose, resulting in	Remove the drive shaft and weld, tighten and loosen Moving screws.

Serial number	Fault type	the reason	solution
		Cracks, causing wear and tear.	
10	Moving parts are stuck.	The proximity sensor screw is loose, causing The offset of the proximity sensor position.	Calibrate the proximity sensor.
11	The accuracy of the machine is reduced.	1.The guide rail is loose. 2.X Shaft and Y The axis is not vertical.	1.Readjust the straightness of the guide rail, vertical Straightness and levelness. 2.Adjust the connecting screw of the beam and the machine bolt.
12	There is a foreign body in the screw	1.Debris infiltrates or is damaged in the bearing. 2.Lack of lubricating oil.	1.Clean or replace bearings 2.Add lubricating oil
13	The screw rod swings when it is running, There are periodic scratches.	1.The screw rod is bent due to misoperation. 2.The screw rod and the motor shaft are not concentric.	1.Replace the screw. 2.Readjust or replace.
14	Pressure gauge needle jumps when working Move, and then set the pressure value Swing back and forth nearby.	The valve sealing surface is moisture or oxidized 物Attachment.	Disassemble the valve, remove the attached moisture and Oxide removal.
15	The V-belt is slipping.	1.The belt is too loose 2.The belt is contaminated with lubricating oil.	1.Adjust the motor base to draw the belt closer 2.Wipe off the oil stains on the belt and put an end to it Keep happening.
16	Sliding block movement hysteresis, guide Rail fever is serious and out Now the phenomenon of wear.	The gap between the guide rail and the slider is too small	1.Adjust the gap between the guide rail and the slider. 2.When wear and puncture, you need to remove the guide Rails, sliders, repair scratches and punctures Location.

6.2 Daily inspection and maintenance

Safety instructions for daily inspection and maintenance:

Risk of electric shock

Be sure to open the door of the control cabinet after the power is off.

cut the power supply 5 Replace the servo unit (including the rectifier) and control power unit after a few minutes. During this period, please do not touch the wiring terminals!

Risk of electric shock and injury

After the repair, please do not forget the tools in the electric control cabinet, and make sure that the door of the electric control cabinet is closed. During maintenance, stick warning signs such as "No power on" and "No power on" on the main power control cabinet and related control boxes to prevent non-related personnel from turning on the switch.

Inspection cycle of each item of the machine:

power supplyOFFWhen (when not operating) inspection						
Check item	Check location	daily an examinatior	1 Months an examination	3 Months an examination	6 Months an examination	12 Months an examination
Confirm the presence of screws/bolts Loose/sway	Guard plate, cover plate screw	√	√	√	√	√
	Machine's setting bolt	√	√	√	√	√
	Locking bolts of each mechanical shaft	√	√	√	√	√
	Bolts/screws around the shaft					√
	Bolts for motors, reducers, etc. /Screw					√
Confirm whether the connection socket is loose Move, if so, step up	External connection socket on the machine	√	√	√	√	√
	Machine cable unit		√	√	√	√
Visually check for the presence of Department defects. Clean up Dust etc.	Machine appearance	√	√	√	√	√
	External cable		√	√	√	√
Check for bending or Position offset. Enter when necessary Repair it or place it properly.	Machine axis position	√	√	√	√	√
State of grease	Please refer to the following "Ball wire "Maintenance of the bar" "straight guide Maintenance of the rail"				√	√

power supplyONTime (operation time) inspection						
Check item	Check location	daily an examination	1 Months an examination	3 Months an examination	6 Months an examination	12 Months an examination
Confirmation of work area	Each axis					√
Shake the cable gently with your hand to confirm Whether there is disconnection	External cables (including machine Cable unit)				√	√
inMOTOR ONUse in the state Press each manipulator arm to confirm that there is No shaking.	Each robotic arm					√
Whether the human-computer interaction interface function Normal, including each button and press Key light, whether the emergency stop button can be used The drive is powered off. If there is touch Screen should check the touch screen Whether the screen function is normal.	Operation panel, emergency stop button, lighthouse. (Touch screen)	√	√	√	√	√
Check if there is any abnormal sound Sound, abnormal vibration.	All	√	√	√	√	√

Maintenance cycle of each equipment of the machine

Maintenance of equipment	Maintenance project	Maintenance time	Remarks
Electric control cabinet body	Check whether the door of the electric control cabinet Close	every day	
	Check that the sealing component part has No gaps and damage	per month	
Heating table	Check whether the heating surface is clean net	every day	
Cabinet fan and rear fan	Confirm fan rotation	appropriate	When turning on the power
Emergency stop button	Action confirmation	appropriate	When the servo is turned on
Safety switch	Action confirmation	appropriate	In teaching mode
Three-color light	Alarm function and sound check	every day	When the device is powered on

Note: This equipment may not involve the maintenance of some parts, please choose the corresponding maintenance by yourself!

6.2.1 Machine movement mechanism maintenance

(1) Daily maintenance

1.Remove the tin dross residue after processing.

2.Check the soldering iron tip for perforation and damage before use, and store it with new tin after use.

3.Do not touch the guide rail with your hands to prevent rust.

4.Check whether the parts are normal before daily work.

(2) Regular maintenance

For frequently used machines, regular maintenance should be done carefully and carefully, the cycle is about three months, and the content is as follows:

1.RemoveXShaft guard, clean the oil stains on the lead screw and guide rail (preferably with silk cloth), check the lead screw, nut seat and front and rear of the lead screw

Whether the screws at the support, etc. are loose, check whether the coupling screws are loose. Then add lubricating oil (grease) on the lead screw and guide rail

(Lithium-based grease No. 2), let the machine head assembly move back and forth several times in order to add enough lubricating oil (grease).

2.RemoveYShaft guard, clean the oil stains on the lead screw and guide rail (preferably with silk cloth), and clean the underside of the workbench, check

checkYAxis photoelectric, whether the connection is reliable, checkYWhether the shaft guide rail, screw element, nut seat, etc. are loose, check the coupling

Whether the screws are loose, after checking,YAdd sufficient lubricating oil (grease) to the shaft guide and lead screw. ReinstallYShaft guard plate.

3.open ZShaft guard, wipe off the dirt that may enter, check whether the screws of the lead screw and the support are loose; give the lead screw after the inspection

Add lubricating oil (grease). an examinationZWhether the shaft connecting plate is loose, you can push and pull it by hand, shake it to see if there is any gap, and then check

Nose and ZWhether the connecting plate of the shaft is loose, add lubricating oil to the guide rail after inspection, and check the connecting plate of the drag chain and Z Shaft connection

Whether the screws fixing the board are loose, check againXWhether the screw connecting the shaft to the light inspection baffle is loose.

4.Belt: Check whether the belt tightness changes every month to prevent changes in the belt tightness from affecting the transmission. V-belt adjustment

Method: Loosen the bolts that fix the motor, move the motor backward, and apply it at the midpoint of the belt by hand. 10NPressure, belt

bending 10~15mmIt is advisable to tighten the bolts that fix the motor.

5.Regularly check the straightness, verticality of the guide rail and the running accuracy of the machine every quarter. If it is abnormal, it should be adjusted in time.

6.The severely worn and damaged parts should be replaced in time.

7.The maintenance of the electrical part is mainly to check the condition of the plug and socket, and check whether each plug is skewed and whether the wire is damaged.

And the situation of welding off.

8.To clean up the dust on the machine platform, carefully clean up and check whether the joints are loose, whether there is any abnormal appearance of the components, the switch and

Whether the buttons are all operating normally.

9.After all inspections are completed, check the signal, and then measure the motion characteristics. After confirming that it is correct, run the tutorial

If the clock does not lose synchronism (requires travel in all directions to the limit), it means that the regular maintenance is completed. Not so much for use

For frequent users, the period of regular maintenance can be once every six months, and the maintenance content is the same.

6.2.2 Daily maintenance and maintenance of oil-water separator

1. It is forbidden to drop or subject it to strong impact during installation to avoid damage.

2. It can be used only after confirming that it has been safely and reliably fixed on the welding machine with screws.

3. It is recommended to use air pressure less than 0.7Mpa.

4. Always drain the water in the oil-water separator, remove it regularly and clean it with a test tube brush.

6.2.3 Linear guide maintenance

1.Approximately every walk 100kmReplenish grease. Even if you don't use it often, you should refill it once a month.

2.Do not add too much grease.

3.Do not apply grease directly to both sides of the slider without injecting it into the inner side of the slider.

4.Prevent the slider from entering foreign objects to affect the life.

5.Grease injection steps:

① In the stopped state, inject from the nozzle 0.7cc Of grease.

② Let the slider move back and forth to make the inner steel ball roll completely.

③ After repeating ① and ②, check whether there is any trace of grease adhesion at the end of the slide rail.

6.2.4 Ball screw maintenance

1.Use the oil gun to inject several times. After each injection, let the screw shaft rotate half a circle (each injection 0.7cc, If you need to inject 7.0cc,

This needs to be divided 10 Injections). Note: Injecting the specified amount of grease at one time will cause the amount of grease injected into the nut to be different.

foot.

2.After injecting a certain amount of grease, push the lead screw slider to move back and forth to distribute the grease evenly.

6.2.5 Daily maintenance and maintenance of tin delivery mechanism

1. Check and clean out the tin pipe regularly to prevent it from being blocked. After using for a period of time, the tin delivery tube is likely to be rosin

If it is blocked, the tin pipe should be soaked in alcohol solution.

2. During use, do not excessively bend or rotate the tin tube to prevent it from being blocked.

3. Different specifications of tin wire and corresponding specifications of the tin outlet tube are used in conjunction with each other, such as the diameter Φ0.8mm Tin wire and

0.8mm The tin-out conduit is used in conjunction with it. Please pay attention before use, so as not to damage the machine or affect the effect of tin production.

4. If the soldering force is not enough, the solder wire will not be automatically sent out. At this time, the pressure adjustment screw can be adjusted clockwise to increase the output

Tin strength; if the strength is too large and the solder wire is squeezed and deformed, the pressure adjustment screw can be adjusted counterclockwise to weaken it

Out of tin intensity.

5. Under normal circumstances, the pressure adjusting screw should not be tightened too tightly to avoid damaging the pressure spring.

6.2.6 Daily maintenance and maintenance of heating controller

1. When not in use, please turn off the power switch of the heating controller; when it is not applicable for a long time, please cut off the power of the heating controller.

2. It must be grounded reliably before use, and do not use ungrounded power cords.

3. If the fuse of the heating controller is damaged, it can be replaced separately.

(1) Pull out the power plug from the power socket and remove the fuse cover.

(2) Take out the broken fuse, replace it with a new one, and install the fuse board.

6.2.7 Daily maintenance and maintenance of soldering pen

Soldering iron tip: soldering iron tip should be tinned to protect the tip of the soldering iron every time it is used up to prevent oxidation.

Excessive temperature. If the soldering iron tip is severely oxidized or worn, it needs to be replaced with a new one. Replacement method: (Close the soldering station to avoid hot

Injury) Unscrew the nut at the steel pipe of the soldering iron head, then pull out the soldering iron head, replace with a new soldering iron head and screw on the nut.

What to do when the soldering iron tip has been oxidized:

1. First adjust the temperature of the soldering station to 300℃, then clean the welding tip with a cleaning sponge and check the condition of the welding tip. If the tin-
2. plated layer of the solder tip contains oxides, a new tin layer can be plated, and the tip of the soldering iron can be wiped with a cleaning sponge.

Repeat the cleaning to completely remove the oxide, and then plate a new tin layer.

note:**Do not use a file to remove the oxide on the welding tip.**

6.2.8 List of consumables and wearing parts

Serial number	Item No.	Product name	Remarks
1	215N005545	371TAATin wire punching components	0.8-1.2mm
2	215N004927	neutral 378FAHeating controller components	
3	215N000948	9005EBATin feeding bracket assembly	
4	210N101661	neutral 9018MHandle assembly	
5	212N101046	9021C-300-1.2mm	With packaging