

VECTECH ET9181 Desktop Soldering Machine

Instruction Manual



Thanks for purchasing our product! Read this book carefully before operation, please store it in a safety and available place for future reference.

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1. Safety Labels

Serious warning



- The product poses a risk of electric shock.
- Only authorized person can change settings.
- Push the red emergency switch for power off in an emergency situation.
- Forbid working while the power wire was damaged.
- If the device remains unused for a long time, please pull the power cord out of power socket.
- During maintenance and inspection of the machine, attention power status and pull out the power plug of the controller.
- Install a Frame Ground to prevent electric shock.
- There is a dangerous voltage inside the device! Only be authorized by the experienced and be an expert can repair the equipment, or contact the agents, manufactures, when the system fails to repair.
- Do not plug or unplug cables during power. The power cable should be plug when the machine has long time to be used or idle.



- Risk for injury.
- Do not extend your body to machine when it works well or powers on.
- Do not wet and disassemble the machine when used. Also do not pull power cord.
- Please keep the machine and table clean, which will help reduce accidents.








- Unprofessional person can not change arbitrarily. When performing maintenance, please turn off the power supply and air pressure.
- This product is non-explosion-proof and is strictly prohibited for potential explosive environment.



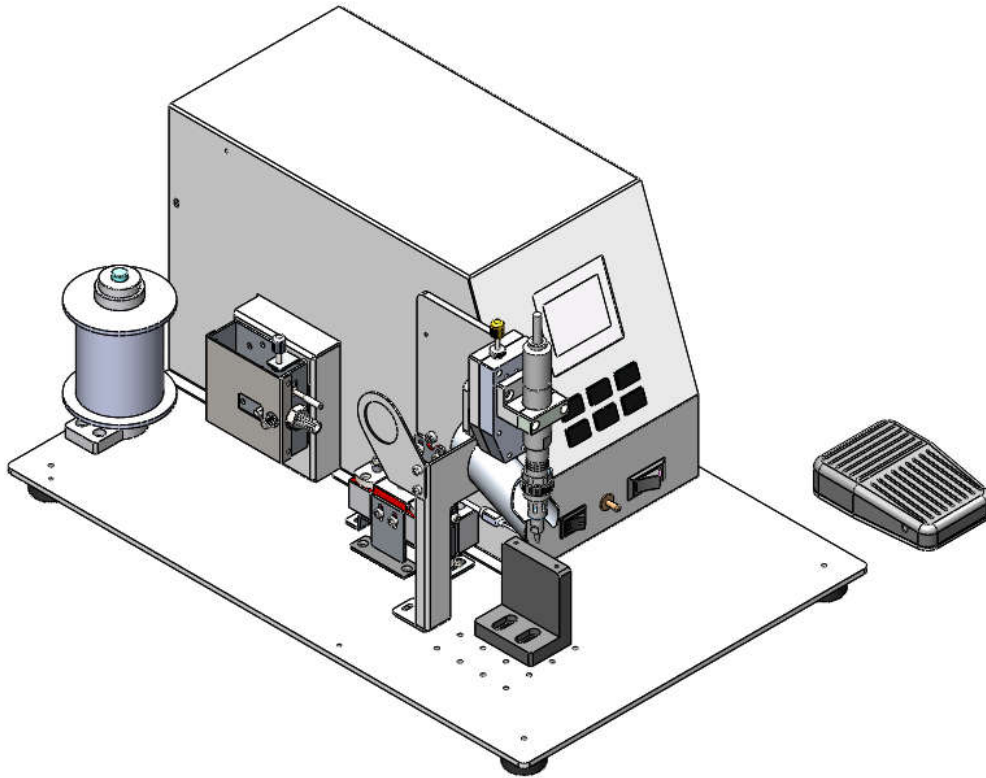
- Make sure that the heating controller parts are securely fastened to the machine before using it.
- Flammable and explosive objects or gas solvents are strictly prohibited in the working area.

Warning

	<ul style="list-style-type: none"> ➤ Do not move the movements by hands to avoid damaging the machine. ➤ Do not touch the moving parts in your work, or you may damage the machine or accident. ➤ During the operation of the machine, please do not put your hand into the device, which may cause the user to get injured or cause substantial damage to the object involved. ➤ During the suspension of the machine, please check the condition carefully for manual operation, otherwise it may cause the user to get injured or cause substantial damage to the object involved.
<p>0~40°C</p>	<ul style="list-style-type: none"> ➤ The product must be used or stored in an applicable environment. ➤ Working ambient temperature is 0~40°C, relative humidity is 20%~90%.
	<ul style="list-style-type: none"> ➤ The equipment is heavy and huge, do not pile up. ➤ Do not pile up items in the scope of the machine ➤ Before moving and carrying, make sure the movements is fixed (for example the X-axis may be fixed by sheet metal or lines for safety). ➤ Unfold the packaging, before using the machine, make sure the movements' fixture (for example the Z-axis may be fixed by sheet metal or lines for safety) is torn down.
	<ul style="list-style-type: none"> ➤ Regularly inspect and maintain will increase durability and performance. ➤ Must operate the machine by standard procedure. ➤ Before starting a repetitive operation, make sure that there is no obstacle in the machine's working area.
	<ul style="list-style-type: none"> ➤ Please use machine within the standard requirements (such as voltage, air pressure, power frequency) as stated in the specification. ➤ Make sure the air source is clean and dry. ➤ Suggest the air pressure is less than 0.7Mpa.
<p>Attention</p>	
	<ul style="list-style-type: none"> ➤ Do not throw the packaging and foamed plastic. ➤ If the machine should come back to the manufacture or agency, it must be folded by initial package. ➤ The machine must be placed vertically. ➤ The machine can be packet after fold by foamed plastic. ➤ The machine can not get wet in transit or stored procedures.

2. Characteristic

The machine is automatic feeder device with adjustable soldering parameters, and it is easy to be used.



2.1 Feature

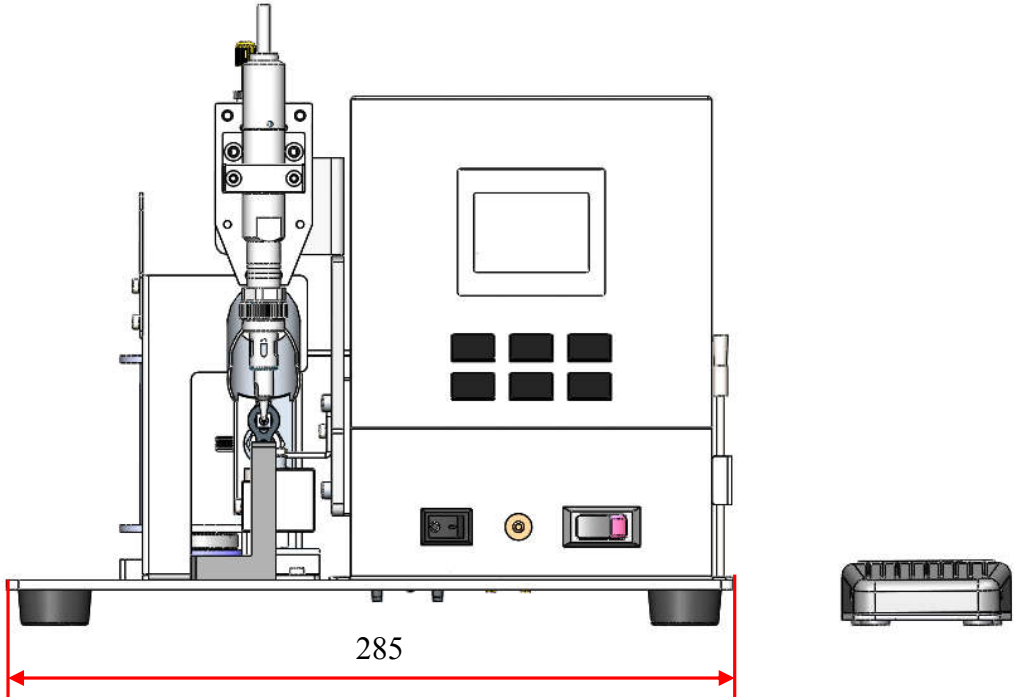
- Heat and cool rapidly
- Equipped with foot pedal.
- Adjustable program speed/time, tin feeding/interval etc.
- Suitable for use with a wide variety of fixtures.

2.2 Technical Data

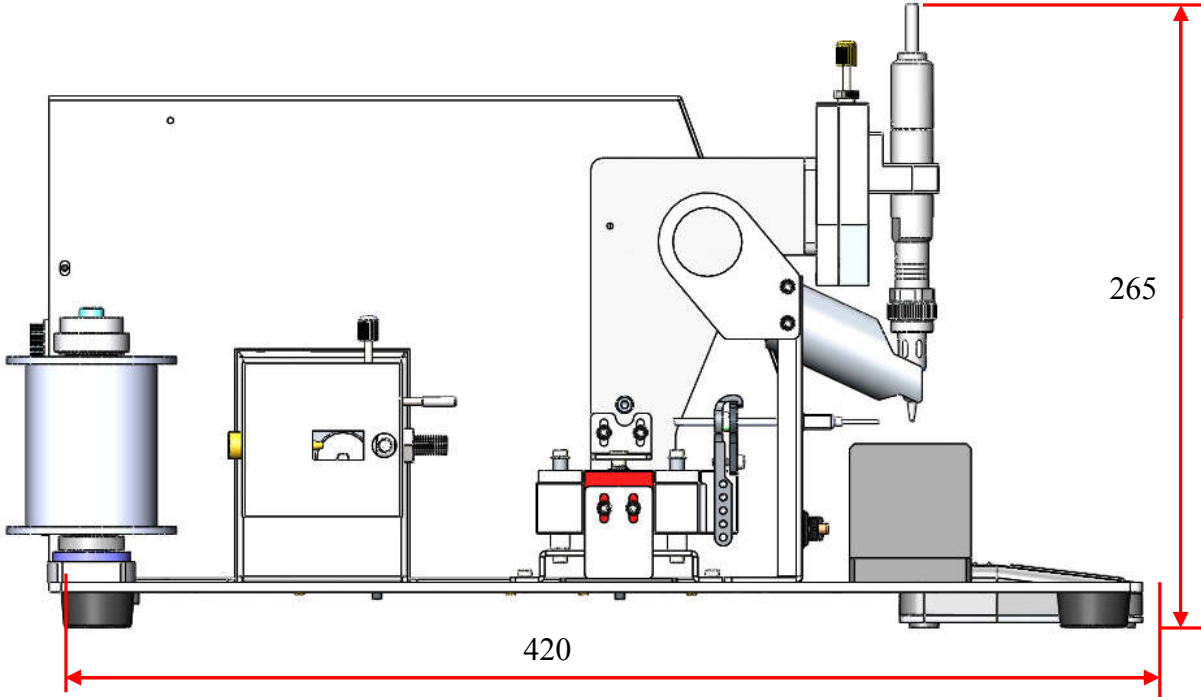
Type	QUICK ET9181
Power consumption	280W
Input voltage	220V AC
Temperature range	100~550°C
Temperature stability	±3°C
Available Tin Dia.	0.5、0.6、0.8、1.0、1.2、1.4、1.6 (mm)
Driver mode	Motor
Feeder type	Foot pedal / Manual
Soldering iron type	9018MG
Dimension (L*W*H)	285*420*265mm
Weight	About 13kg

2.3 Dimension

Front view



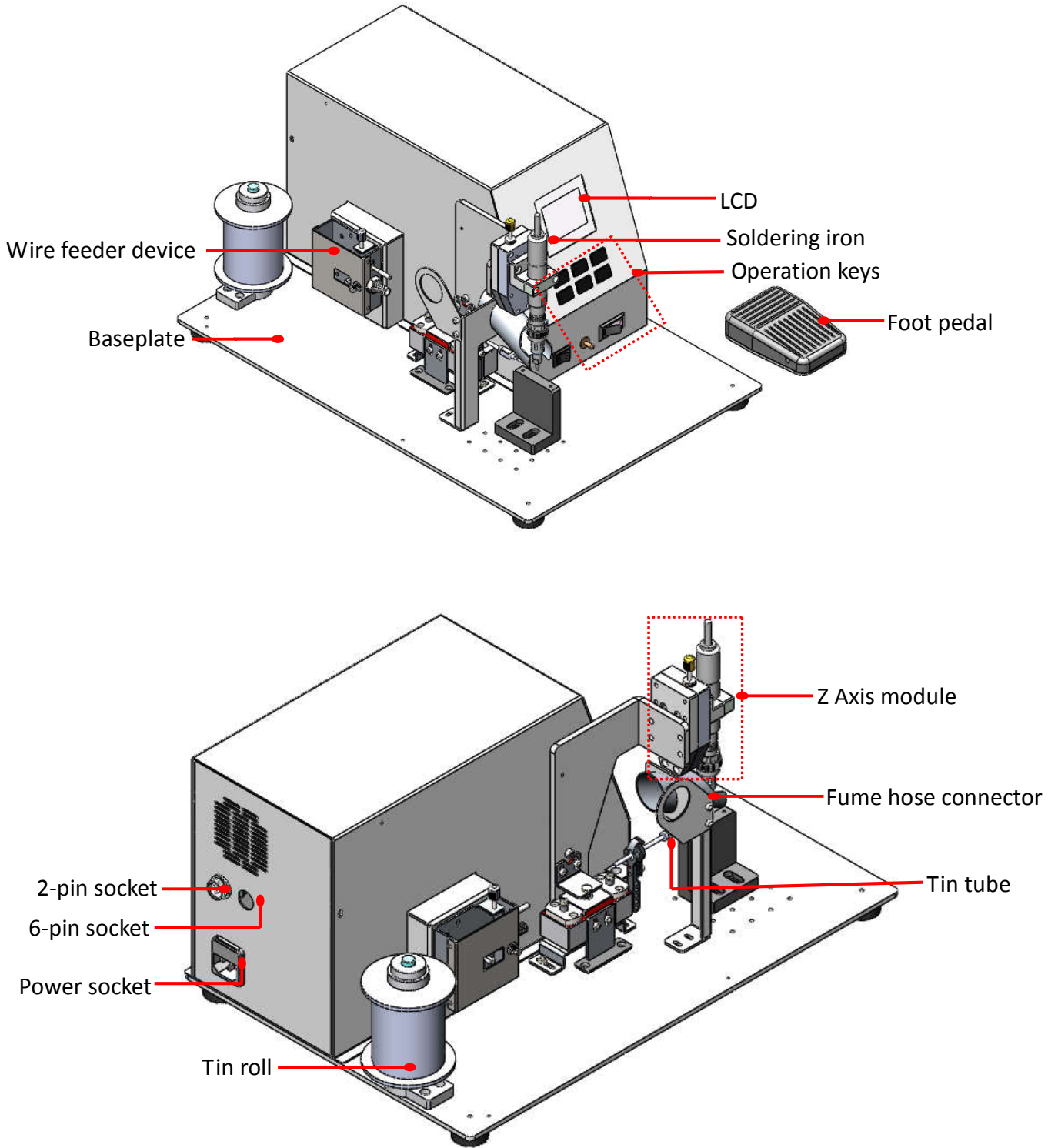
Left View



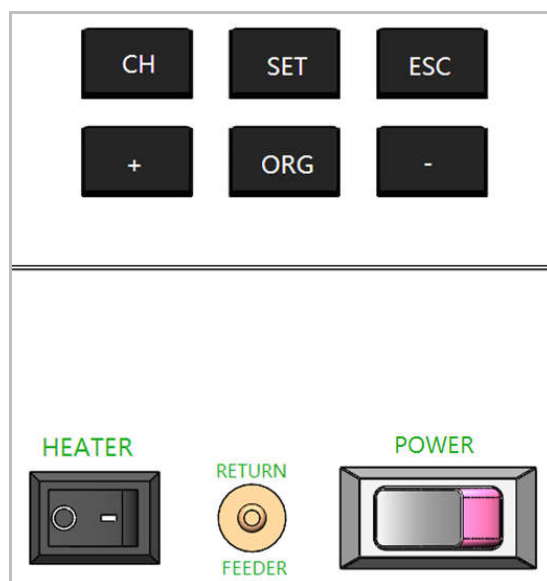
Unit: mm

3. Functional Description



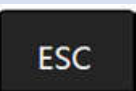
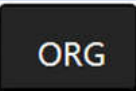
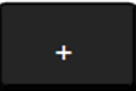
3.1 Introduction







3.2 Operation Keys Introduction



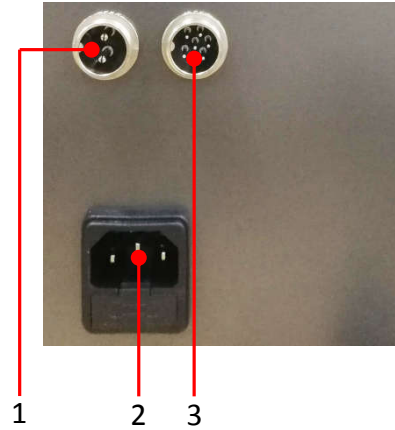
Keys functions list:

No.	Command key	Description
1		Press “CH” to select channel, there are ten channels.
2		<ol style="list-style-type: none"> 1. In Main menu, press and hold “SET” key for 3s to enter into Setup menu, refer to 5.2 Setup Menu. 2. In Setup menu, press “SET” key to save parameters.
3		<ol style="list-style-type: none"> 1. In Main menu, press “ESC” key for 3s to reset count. 2. In Setup menu, press “ESC” key to back to Main menu.
4		<ol style="list-style-type: none"> 1. Press “ORG” key to move the machine to home position. 2. Press “ORG” key for 10s to enter into Calibration menu, refer to 5.3 Calibration Menu.
5		<ol style="list-style-type: none"> 1. In Main menu, press “+” key to increase temperature by one digit, press and hold it to continually increase. The Max temperature is 550°C. 2. In Setup menu, press “+” key to move the cursor up.

No.	Command key	Description
6		<p>1. In Main menu, press “-” key to decrease temperature by one digit, press and hold it to continually decrease.</p> <p>The Min temperature is 100°C.</p> <p>2. In Setup menu, press “-” key to move the cursor down.</p>
7		<p>Heater switch.</p> <p>“O” position indicates heater is ON, otherwise is OFF.</p>
8		<p>Power switch.</p> <p>Turn ON or turn OFF the machine.</p>
9		<p>Toggle switch.</p> <p>Switch to “RETURN” position to back Tin, and switch to “FEEDER” position to feed Tin.</p>

4. Connection and Pin Function

4.1 Connection




1. 2-pin Socket: connect to foot pedal, pins function refers to [4.2.1 2-pin Socket Introduction](#)
2. Power Socket: connect to power supply.
3. 6-pin Socket: connect to soldering iron, pins function refers to [4.2.2 6-pin Socket Introduction](#).

4.2 Pin Function


4.2.1 2-pin Socket Introduction

2-pin socket is connected to foot pedal, pins function refers to following table.

Socket	Pin No.	Description
	1	Run +
	2	Run -




4.2.2 6-pin Socket Introduction





6-pin socket is connected to soldering iron, pins function refers to following table.





Socket	Pin No.	Description
	1	Sensor -
	2	Sensor +
	3	GND
	4	Heat +
	5	Heat -
	6	No connection

5. Menu Introduction

5.1 Main Menu

	CH1	
	100	°C
=		
Count		

	CH1	
	100	°C
		
Count		

Icon	Description
CH1	Shows the channel number.
=	Shows the temperature is constant.
	Red symbol indicates heating. Blue symbol indicates cooling.
	Shows the machine is in unlock mode.
	Shows the machine is in lock mode.
°C	Shows the temperature unit.
	Red indicates the machine is alarming. Yellow indicates the machine is idling. Green indicates the machine is running.
Count	Shows the number of soldering points completed so far.

5.2 Setup Menu

5.2.1 Temperature

Temperature is used to set temperature value during soldering process.

- 1) In **Main** menu, press “**SET**” key to enter into **Setup** menu.
- 2) Press “+” or “-” key to move the cursor to **Temp**.
- 3) Press “**SET**” key to activate value (Blue indicates value can be modified).
- 4) Press “+” or “-” key to adjust temperature.

The temperature range is 100~550°C.

- 5) Press “**SET**” key to save.
- 6) Press “**ECS**” key to back to **Main** menu.

Setup · CH1	
Temp.	200°C
Z Speed	
Tin Speed	
Pre-tin	
Z Height	
>>>	Enter Back

Setup · CH1	
Temp.	200°C
Z Speed	
Tin Speed	
Pre-tin	
Z Height	
>>>	Save Back

5.2.2 Z Speed

Z Speed is used to set the speed at which the Z axis moves during soldering process.

- 1) In **Setup** menu, press “+” or “-” key to move the cursor to **Z Speed**.
- 2) Press “**SET**” key to activate value (Blue indicates value can be modified).
- 3) Press “+” or “-” key to adjust speed, the speed range is 5~300mm/s.
- 4) Press “**SET**” key to save.
- 5) Press “**ECS**” key to back to **Main** menu.

Setup · CH1	
Temp.	
Z Speed	10mm/s
Tin Speed	
Pre-tin	
Z Height	
>>>	Enter Back

Setup · CH1	
Temp.	
Z Speed	10mm/s
Tin Speed	
Pre-tin	
Z Height	
>>>	Save Back

5.2.3 Tin Speed

Tin Speed is used to set speed at which the tin moves during feeding process.

- 1) In **Setup** menu, press “+” or “-” key to move the cursor to **Tin Speed**.
- 2) Press “**SET**” key to activate value (Blue indicates value can be modified).
- 3) Press “+” or “-” key to adjust speed, the speed range is 5~60mm/s.
- 4) Press “**SET**” key to save.
- 5) Press “**ECS**” key to back to **Main** menu.

Setup · CH1	
Temp.	
Z Speed	
Tin Speed	10mm/s
Pre-tin	
Z Height	
>>>	Enter Back

Setup · CH1	
Temp.	
Z Speed	
Tin Speed	10mm/s
Pre-tin	
Z Height	
>>>	Save Back

5.2.4 Pre-tin

Pre-tin is used to set the tin feeding length before soldering starts.

- 1) In **Setup** menu, press “+” or “-” key to move the cursor to **Pre-tin**.
- 2) Press “**SET**” key to activate value (Blue indicates value can be modified).
- 3) Press “+” or “-” key to adjust length, the length range is 0~50mm.
- 4) Press “**SET**” key to save.
- 5) Press “**ECS**” key to back to **Main** menu.

Setup · CH1	
Temp.	
Z Speed	
Tin Speed	
Pre-tin	10mm
Z Height	
>>>	Enter Back

Setup · CH1	
Temp.	
Z Speed	
Tin Speed	
Pre-tin	10mm
Z Height	
>>>	Save Back

5.2.5 Z Height

Z Height is the distance that the Z axis moves down from home position.

- 1) In **Setup** menu, press “+” or “-” key to move the cursor to **Z Height**.
- 2) Press “**SET**” key to activate value (Blue indicates value can be modified).
- 3) Press “+” or “-” key to adjust height, the height range is 0~50mm.
- 4) Press “**SET**” key to save.
- 5) Press “**ECS**” key to back to **Main** menu.

Setup · CH1	
Temp.	
Z Speed	
Tin Speed	
Pre-tin	
Z Height	10mm
>>> Enter	Back

Setup · CH1	
Temp.	
Z Speed	
Tin Speed	
Pre-tin	
Z Height	10mm
>>> Save	Back

5.2.6 Heat Time

Heat Time is the amount of time that the tip waits before soldering process.

- 1) In **Setup** menu, press “+” or “-” key to move the cursor to **Heat Time**.
- 2) Press “**SET**” key to activate value (Blue indicates value can be modified).
- 3) Press “+” or “-” key to adjust time, the time range is 0~10s.
- 4) Press “**SET**” key to save.
- 5) Press “**ECS**” key to back to **Main** menu.

Setup · CH1	
Heat Time	002.0s
Pre-tin Back	
Tin Feeding	
Solder Time	
Tin Back	
>>> Enter	Back

Setup · CH1	
Heat Time	002.0s
Pre-tin Back	
Tin Feeding	
Solder Time	
Tin Back	
>>> Save	Back

5.2.7 Pre-tin Back

Pre-tin Back is pre-tin back length.

- 1) In **Setup** menu, press “+” or “-” key to move the cursor to **Pre-tin Back**.
- 2) Press “**SET**” key to activate value (Blue indicates value can be modified).
- 3) Press “+” or “-” key to adjust length, the length range is 0~10mm.
- 4) Press “**SET**” key to save.
- 5) Press “**ECS**” key to back to **Main** menu.

Setup · CH1	
Heat Time	
Pre-tin Back	010.0mm
Tin Feeding	
Solder Time	
Tin Back	
>>> Enter	Back

Setup · CH1	
Heat Time	
Pre-tin Back	
Tin Length	010.0mm
Solder Time	
Tin Back	
>>> Save	Back

5.2.8 Tin Feeding

Tin Feeding length when soldering starts.

- 1) In **Setup** menu, press “+” or “-” key to move the cursor to **Tin Feeding**.
- 2) Press “**SET**” key to activate value (Blue indicates value can be modified).
- 3) Press “+” or “-” key to adjust length, the length range is 0~10mm.
- 4) Press “**SET**” key to save.
- 5) Press “**ECS**” key to back to **Main** menu.

Setup · CH1	
Heat Time	
Pre-tin Back	
Tin Feeding	010.0mm
Solder Time	
Tin Back	
>>> Enter	Back

Setup · CH1	
Heat Time	
Pre-tin Back	
Tin Feeding	
Solder Time	010.0mm
Tin Back	
>>> Save	Back

5.2.9 Solder Time

Solder Time is used to determine how long the tip waits after finishing Tin Feeding.

- 1) In **Setup** menu, press “+” or “-” key to move the cursor to **Solder Time**.
- 2) Press “**SET**” key to activate value (Blue indicates value can be modified).
- 3) Press “+” or “-” key to adjust time, the time range is 0~10s.
- 4) Press “**SET**” key to save.
- 5) Press “**ECS**” key to back to **Main** menu.

Setup · CH1	
Heat Time	
Pre-tin Back	
Tin Feeding	010.0s
Solder Time	010.0s
Tin Back	
>>> Enter	Back

Setup · CH1	
Heat Time	
Pre-tin Back	
Tin Feeding	010.0s
Solder Time	010.0s
Tin Back	
>>> Save	Back

5.2.10 Solder Time

Tin back length when soldering finishes.

- 1) In **Setup** menu, press “+” or “-” key to move the cursor to **Tin back**.
- 2) Press “**SET**” key to activate value (Blue indicates value can be modified).
- 3) Press “+” or “-” key to adjust length, the length range is 0~10mm.
- 4) Press “**SET**” key to save.
- 5) Press “**ECS**” key to back to Main menu.

Setup · CH1	
Heat Time	
Pre-tin Back	
Tin Feeding	
Solder Time	010.0mm
Tin Back	010.0mm
>>> Enter	Back

Setup · CH1	
Heat Time	
Pre-tin Back	
Tin Feeding	
Solder Time	010.0mm
Tin Back	010.0mm
>>> Save	Back

5.2.11 Lift Height

Lift Height is a distance that the Z axis lifts when soldering finishes.

- 1) In **Setup** menu, press “+” or “-” key to move the cursor to **Lift Height**.
- 2) Press “**SET**” key to activate value (Blue indicates value can be modified).
- 3) Press “+” or “-” key to adjust height, the height range is 0~70mm.
- 4) Press “**SET**” key to save.
- 5) Press “**ECS**” key to back to Main menu.

Setup · CH1	
Lift Height	010.0mm
Temp. Unit	
Password	
Language	
>>> Enter Back	

Setup · CH1	
Lift Height	010.0mm
Temp. Unit	
Password	
Language	
>>> Save Back	

5.2.12 Temp. Unit

The default unit of temperature is °C.

Setup · CH1	
Height Lift	
Temp. Unit	°C
Password	
Language	
>>> Enter Back	

Setup · CH1	
Height Lift	
Temp. Unit	°C
Password	
Language	
>>> Save Back	

5.2.13 Password

Password is used to set the password to protect the Setup menu.

- 1) In **Setup** menu, press “+” or “-” key to move the cursor to **Password**.
- 2) Press “**SET**” key to activate value (Blue indicates value can be modified).
- 3) Press “+” or “-” key to adjust number, the password range is 000~999.

- 4) Press “SET” key to save.
- 5) Press “ECS” key to back to Main menu.

Setup · CH1	Setup · CH1
Lift Height	Lift Height
Temp. Unit	Temp. Unit
Password 000	Password 000
Language	Language
>>> Enter Back	>>> Save Back

5.2.14 Language

Language is used to select the menu language, there are two languages can be selected.

- 1) In **Setup** menu, press “+” or “-” key to move the cursor to **Language**.
- 2) Press “SET” key to activate value (Blue indicates value can be modified).
- 3) Press “+” or “-” key to move the cursor up or down.
- 4) Press “SET” key to save.
- 5) Press “ECS” key to back to **Main** menu.

Setup · CH1	Setup · CH1
Lift Height	Lift Height
Temp. Unit	Temp. Unit
Password	Password
Language <input checked="" type="checkbox"/> 简体中文 <input type="checkbox"/> English	Language <input type="checkbox"/> 简体中文 <input checked="" type="checkbox"/> English
>>> Enter Back	>>> Save Back

5.3 Calibration Menu

In **Main** menu, press “**ORG**” key for 10s to enter into calibration menu, refer to following picture.



Press “+” or “-” key to adjust number, and press “**OK**” key to confirm. If there are a “**Cal OK**” prompt appears, it indicates that the calibration process has been finished.

6. Commissioning

6.1 Preparation



Inspection and maintenance are performed by professional person!



Electrical shock hazard!

Daily check items before operation:

- Check if the working voltage is correct.
- Check if the grounding is right.
- Check if there are obstacles on the machine.
- Check if the movement parts are fixed.
- Check if the power switch is in OFF.
- Check if the Z axis can move.
- Check all cables are connected.

6.2 Installation

- 1) Install the tin.
- 2) Connect and tighten soldering iron cable to 6-pin socket.
- 3) Connect and tighten foot pedal cable to 2-pin socket.
- 4) Connect 220V AC cable to power socket.
- 5) Switch on the machine power supply.

6.3 Beginning Program




Hot Surface! Thermal warning labels identify potentially hot components and surfaces. It can cause burn when working on or around these areas.



Hand Crush! This label warns of moving parts that can cause serious injury to hands and fingers.

1. Connect soldering iron and foot pedal.
2. Connect 220V AC cable to power socket.
3. Power on the machine.
4. Setting parameters.

1) Press “**SET**” key to enter into Setup menu.



Setup--CH1	
Temp	200°C
Z Speed	
Tin Speed	
Pre tin	
Z Height	
>>>	Enter Back

2) Temperature setup

Press “+” or “-” key to move the cursor to **Temp**, press “**SET**” key to enter, then press “+” or “-” key to adjust value, press “**SET**” key to save.

Setup--CH1	
Temp	320°C
Z Speed	
Tin Speed	
Pre-tin	
Z Height	
>>>	Enter Back

5. Soldering position setup

Press “+” or “-” key to move the cursor to Pro-height, press “**SET**” key to enter, then press “+” or “-” key to adjust value, press “**SET**” key to save.

Setup · CH1	
Temp.	
Z Speed	
Tin Speed	
Pre-tin	
Z Height	10mm
>>>	Enter Back

6. Parameters Setup

- Press “+” or “-” key to move the cursor to Pre-length, press “SET” key to enter, then press “+” or “-” key to adjust value, press “SET” key to save.

Setup · CH1	
Temp.	
Z Speed	
Tin Speed	
Pre-tin	10mm
Z Height	
>>>	Enter Back

- Press “+” or “-” key to move the cursor to Heat time, press “SET” key to enter, then press “+” or “-” key to adjust value, press “SET” key to save.

Setup · CH1	
Heat Time	002.0s
Pre-tin Back	
Tin Feeding	
Solder Time	
Tin Back	
>>>	Enter Back

- Press “+” or “-” key to move the cursor to Tin Feeding, press “SET” key to enter, then press “+” or “-” key to adjust value, press “SET” key to save.

Setup · CH1	
Heat Time	
Pre-tin Back	
Tin Feeding	010.0mm
Solder Time	
Tin Back	
>>>	Enter Back

- Press “+” or “-” key to move the cursor to Solder Time, press “SET” key to enter, then press “+” or “-” key to adjust value, press “SET” key to save.

Setup · CH1	
Heat Time	
Pre-tin Back	
Tin Feeding	010.0s
Solder Time	
Tin Back	
>>>	Enter Back

- Press “+” or “-” key to move the cursor to Tin Speed, press “SET” key to enter, then press “+” or “-” key to adjust value, press “SET” key to save.

Setup · CH1	
Temp.	
Z Speed	
Tin Speed	10mm/s
Pre-tin	
Z Height	
>>>	Enter Back

- Press “+” or “-” key to move the cursor to Lift Height, press “SET” key to enter, then press “+” or “-” key to adjust value, press “SET” key to save.

Setup · CH1	
Lift Height	010.0mm
Temp. Unit	
Password	
Language	
>>>	Enter Back

7. Starting Program

Press foot pedal to activate program when the parameters have been set.

Note: If you have any problem during operation, please contact us for technical supporting!

7. Troubleshooting and Maintenance

7.1 Troubleshooting

No.	Error Message	Description
1	H-E	Heating element is damaged, replace a new one.
2	S-E	Sensor is damaged, replace a new one.

7.2 Maintenance

7.2.1 Wire Feeder Device

1. Regularly check and clean the wire feeder tube with a small brush and alcohol solvent.
2. Do not bend the tube during operation.
3. The wire diameter must be match tube. For example, The wire of ϕ 0.8mm needs 0.8mm tube.

7.2.2 Soldering Tip

1. High temperature would affect/decrease the lifetime of soldering tip. Set the temperature as per application but as low as possible.
2. The oxide and carbide produced by residual flux will damage the soldering tip, like soldering deviation and slow heat conduction etc. Clean the soldering tip regularly (every week for long time continuous using).
3. Under high temperature, the solder in tip will produce oxide, which will damage its heat conduction. Turn off the heating controller when not use.

7.2.3 Prolong the Lifetime of Soldering Tip

1. Coat the soldering tip with solder to prevent oxide.
2. Set the temperature as per application but as low as possible.

3. Choose the right type of soldering tip.
4. The plating would be broken if the tip is bent. Do not use the soldering tip as a detecting tool.
5. Activated rosin will corrode the tip plating. Choose the solder wire with less activated rosin.
6. Do not press the soldering tip. Much pressure is not helpful for heat conduction. Melt the solder wire to create a solder bridge between tip and point, to speed up heat transfer.

Note: If you have any problem during operation, please contact us for technical supporting.

