SOLDRON®

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LEAD-FREE SOLDERING STATION

Operation instruction

Model:385D

Thank you for purchasing LEAD-FREE SOLDERING STATION.
Please read this manual before use, and keep it after reading it for future reference.
Applicable product model: 385D

WARN

The definitions of "Warning" and "Caution" in this manual are as follows:
WARNING: Misuse can result in death or serious injury to the user.
ATTENTION: Abuse may result in injury to the user or substantial damage to the objects involved.

NOTICE

- when the power is turned on, the temperature of the soldering iron tip is in a high temperature state.
- Since abuse may result in burns or fire, please strictly observe the following:
- Do not touch the metal parts near the tip of the soldering iron.
- Do not use the soldering iron tip near flammable objects.
- Notify other people in the factory that the tip of the soldering iron is very easy to burn and may cause a dangerous accident. Power should be turned off during breaks or after work.
- When replacing parts or installing the tip, turn off the power and allow the tip to cool to room temperature.

- In order to avoid damage to the welding station and maintain a safe working environment, the following items should be observed:
- 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-prong adapter to make a poor ground. For extension cords, use a grounded three-wire power cord.
- Do not use a soldering iron tip for work other than soldering.
- Do not knock the soldering station against the worktable to remove the flux residue, which may seriously damage the heating core.
- Do not modify the welding station without authorization.
- When replacing parts, the original parts should be used.
- Do not get the soldering station wet, or use the soldering station with wet hands.
- Smoke will be emitted during welding, and the work should have good ventilation facilities.
- When using the soldering station, do not do anything that may injure the body or damage objects.

Product overview

This product is a fully automatic tin output device, you can choose one-hand operation, foot pedal tin feeding operation; flexible tin output, fixed metal pipe output tin multiple ways; efficient, simple and easy welding. The stepper motor is controlled by the instruction of the single-chip microcomputer, and the tin

output is precisely and flexibly controlled. The length, speed and amount of tin returning can be adjusted. All parameters are digitally displayed, which is clear at a glance. The welding effect of the product is stable, the work efficiency is significantly improved, and the combined structure is optimized. The heating element of the soldering iron is imported low-voltage ceramic heating element, which is fast and stable in heating, safe and reliable.

Welding station

Model	385
Power	60W
Input voltage:	AC 220V +/- 10% 50Hz/60Hz
Temperature range:	200-480°C
Maximum ambient temperature:	40°C
Temperature stability:	+2°C (still air, no load)
Shell material ferro:	alloy paint
Tin wire diameter:	0.6-1.2MM
Appearance volume:	Length 200mm, width 140mm, height 130mm
Weight:	2.5KG

Soldering Iron handle

Soldering iron tip to ground resistance:	Less than 2ohms
Soldering iron tip to ground potential:	Less than 2 mV
Heating element:	Ceramic
Wire device:	1.2 meters
Length (without wies):	190mm
Weight:	123 grams (including tin conduit)

Product structure and components

Figure (1) Whole machine (Type B)

Figure (2) Rear panel

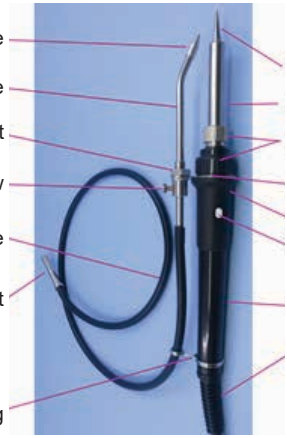


Figure (3) Handle assembly

Figure (4) Bracket Figure

(5) Optional universal metal hose (Type A)

Set up and use the soldering station

Note: Before installing and electrifying, check whether the power supply voltage is consistent with the working voltage on the nameplate of the machine ,After the power is turned on, the heating indicator (1)-12 will light up, and the heat pipe of the handle will heat up. Operate carefully to avoid burns.

A. Solder stand and solder wire installation

Select the tin wire with the appropriate wire diameter according to the solder joint, adjust the normal pressure (10. Pressure adjustment screw), set the gap between the transmission wheels (4. Wire diameter adjustment screw), pay attention to the tin wire from the downward penetration into the tin hole , after the power is turned on, the mode is set to (0), press the manual switch or pedal until the tin wire is sent to the tin outlet, and select the tin outlet as a fixed metal pipe and a movable tin hose according to actual needs.

B. Connect the handle

Fix the handle on the bracket clip (4) or the soldering iron seat, insert the handle into the rear panel and connect the handle as shown in Figure (2) (14. Handle interface), and lock it tightly

C. Connect the foot switch

Insert the plug of the foot switch into the "SW" jack on the rear panel of the machine

D. Connect the power

Note: When connecting or disconnecting the soldering station, remember to turn off the power to avoid damage to the soldering station.

1. Connect the assembly wires to the socket of the soldering station.
2. Place the soldering station on the soldering station stand.
3. Insert the plug into the power outlet. Remember to ground.
4. Press the power switch.

Calibrate Solder Station Temperature

Recalibrate the soldering station temperature every time the handle heating element or the soldering iron tip is replaced.

The way to recalibrate the soldering station temperature is to use a soldering iron tip thermometer to calibrate. This method is more accurate.

Calibration with a soldering iron tip thermometer

1) Set the temperature to 350 degrees Celsius.

2) When the temperature is stable, use a thermometer to measure the actual temperature of the current soldering iron tip.

3) Use Phillips screws at the "CAL" hole at the bottom of the machine to adjust the actual temperature to be consistent with the set temperature.

4) It is recommended to re-calibrate the temperature every time a new tip or handle is replaced.

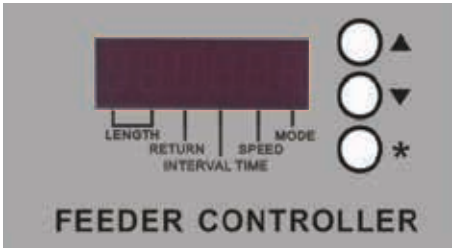
Troubleshooting

When the following problems occur with the welding station
1) The indicator light is on, but the heating core is damaged, replace the handle or heating core
2) No power supply, the tin feeding indicator window is not on, check the fuse, power cord and power socket
3) The tin force is not enough, the wire diameter gap is too large, adjust figure (1)
4) Adjustment figure (1) 10. Pressure adjusting screw

Tin parameter setting

Description: Motor Stepper Motor
Length 0-99mm
Back tin amount 0-9mm (fixed speed 40mm/S)
Interval time 0-9S
Speed 0=2mm/S, 1=8mm/S, 2=12mm/S, 3=16mm/S, 4=20mm/S, 5=24mm/S, 6=28mm/S, 7=32mm/S, 8 =36mm/S, 9=40mm/S;
Tin mode automatic (1-9)/manual (0)

Operation panel



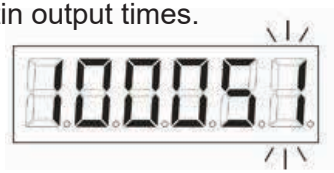
1. Adjustment of tin discharge: press "*" for more than 1 second, the 1-2 digits of the adjustment parameter will flash (as shown in the figure below), enter the setting of the length of the tin wire, and press "UP" "DOWN" to adjust the value (this length is in non-0 mode is valid), the value is 0-99.

2. Press "*" to confirm and enter the third parameter adjustment, the adjustment parameter of tin return setting flashes (as shown in the figure below), and the value is 0-9.

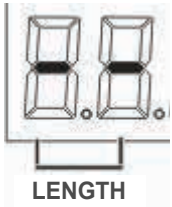
3. Press "*" to confirm and enter the fourth parameter adjustment, enter the interval time setting of multiple welding, the adjustment parameter flashes (as shown in the figure below), the value is 0-9

4. Press "*" to confirm and enter the 5th parameter adjustment, enter the tin feeding speed setting, the adjustment parameter flashes (as shown in the figure below), and the value 0-9 valid.

5. Press " * " to confirm and enter the 6th parameter adjustment, enter the tin feeding mode setting, the adjustment parameter flashes (as shown in the figure below), the value 0-9 is valid, 0: jog, 1-9 automatic tin output times.



6. Press "*" to confirm and exit. After all parameters are adjusted and stored in the chip memory, you can to use.



When manual work is started (in 0 mode), The length is shown in the figure below. In automatic mode, the length will display the length of the tin to be sent in real time.

Choose the right soldering iron tip to meet the welding requirements

1. A soldering iron tip with the largest contact area between the soldering iron tip and the solder joint should be selected. The largest contact area can produce the most effective heat transfer, so that the operator can quickly solder high-quality solder joints.

2. A soldering iron tip that has a good path to transmit heat to the solder joints should be selected. A soldering iron tip with a shorter length can be controlled more precisely. For the soldering of densely assembled circuit boards, a longer or angled soldering iron tip may be selected.

Use of soldering iron tips

● Soldering iron tip temperature If the temperature is too high, it will shorten the life of the soldering iron tip, so you should choose the lowest possible temperature.
temperature. At this time, the temperature of the soldering iron tip has recovered well, and the appropriate temperature can Soldering is sufficient, and it also protects temperature-sensitive components.

● Cleaning

The tip of the soldering iron should be cleaned regularly with a cleaning sponge. After soldering, the soldering iron Residual flux-derived oxides and carbides in the head damage the solder iron tip, causing welding errors, or reducing the thermal conductivity of the soldering iron tip retreat. When using the soldering station continuously for a long time, the soldering station should be disassembled once a week， The iron tip removes oxides to
prevent damage to the tip and reduce the temperature.

● When not in use

When the soldering station is not in use, do not allow the soldering station to be in a high temperature state for a long time.It will convert the flux on the soldering iron tip into oxides, causing the soldering iron tip, The thermal conductivity is greatly reduced.

● After use

After use, the tip of the soldering iron should be wiped clean, and a new layer of tin should be applied to prevent the soldering station Head causes oxidation.

Maintenance of soldering iron tips

● Inspect and clean the tip of the soldering iron

1. After the temperature is stable, clean the soldering iron tip with a cleaning sponge and check the condition of the soldering iron tip.
2. If the tin-plated part of the soldering iron tip contains black oxide, a new tin layer can be plated, and then wipe the soldering iron tip with a cleaning sponge. This cleaning is repeated until the oxide is completely removed, and then a new layer of tin is applied. Scrub the tip on a dry or dirty sponge or cloth (a clean, moist industrial-grade and sulfur-containing sponge should be used).

The solder or iron plating is impure, or the soldering surface is not clean

1. Remove the tip from the soldering station handle after the tip has cooled.
2. Use 80# polyurethane grinding foam to set the temperature to 250 degrees Celsius.

3. Use a foam block or 100# emery paper to remove the dirt and oxides on the tinned surface of the soldering iron tip.
4. Put the soldering iron tip into the handle, wrap the newly exposed soldering iron tip with tin wire (above Φ0.8mm) containing rosin, and turn on the power of the soldering station.

● Note: Proper daily maintenance will effectively prevent the soldering iron tip from not getting tin.

1. Immerse the solder with fresh solder after each use, which can prevent the oxidation of the iron tip and prolong the life.
2. Try to use a lower temperature when it can work. Low temperature can reduce the oxidation of the soldering iron tip.
3. Use a thin tip only when necessary, the coating on a thin tip is not as durable as the coating on a blunt tip.
4. Do not use a soldering iron tip as a probing tool. Bending the soldering iron tip will crack the coating and shorten the service life.
5. Try to use less active rosin flux, because high content of active rosin will accelerate the corrosion of the iron tip coating.
6. Turn off the power as much as possible without using the soldering iron to prolong the life.
7. Do not apply heavy pressure to the soldering iron tip, because greater pressure does not equal fast heat transfer. In order to improve heat transfer, the solder must be melted to form a thermally conductive solder bridge between the soldering iron tip and the solder joint.

Schedule 1
List of packing accessories：
Power cord*1 piece
Manual*1 book
Handle 385B*1 stick
Tin spool*1 piece
Bracket *1 set
Foot pedal *1 pay
Hexagonal *1 piece
key *1 piece

Cross from the tin tube*1 set

Schedule 2
Commonly used 900M series
soldering iron tip selection 900M-I 0.2I
900M-B 0.5B 1B 2B
900M-C 1C 2C 3C 4C 5C

900M-D 1.2D 1.6D 2.4D 3.2D
900M-K SK K LK

Schedule 3
Optional accessories
385C with manual switch handle
Advanced Aluminum Alloy Soldering Iron Stand
Universal metal tin hose (type A)