

Mini Electric Soldering Iron Instruction Manual

Thank you for using this product. Please read the instructions carefully before use to avoid errors in operation.



Packing List

Please confirm the package content

Mainframe	1
Soldering Iron Tip.	1
Conversion Line	1
Instruction Manual	1
Soldering Iron Stand	1
Hex Key	1
XT60 Power Cable	1

Features

- ★ High quality heating body, high platinum temperature sensitivity.
- ★ Automatic shutdown function, energy saving, safe and reliable.
- ★ Have the sleeping function. The temperature of the soldering iron can be set to reduce to 100 °C automatically when it is not used during 1 ~ 30 minutes. After sleep, pick up and shake the electric iron again to wake up, and the temperature of the iron will quickly rise to the original set temperature.
- ★ Microcomputer temperature compensation value, temperature error less than plus or minus 5 °C.
- ★ The power cord is made of soft material with high insulation.
- ★ LED display. The content is absolutely clear.
- ★ Memory mode function.
- ★ Handle is made of special high temperature resistant material and ESD antistatic treatment.

Applicable Parameters

Power supply: DC 12~24V
Welding nozzle earth impedance: <2Ω
Welding nozzle earth voltage: <2 mv

Technical Parameters

Operating voltage	Power	The fastest time to heat up
12V	17W	100S
16V	30W	40S
19V	40W	22S
24V	60W	13S

- * This product is protected against electrostatic discharge.
- * Specifications and design are subject to change without notice.

Caution

Because abuse will cause burns and fire. Please strictly comply with the following matters:

- Please avoid abusing the soldering iron, should operate according to the working instruction.
- Use only DC power.
- Do not touch the metal parts of the soldering iron.
- Do not use the soldering iron nearby the combustible.
- Notice staffs that the soldering nozzle is easy to cause burn or other dangerous accidents, so please turn off the power after getting off work.
- Before replace soldering nozzle, please confirm the power is shut off and the nozzle is cool.
- It is strictly prohibited to use the product when any damage, especially the power cord damages.
- Please don't knock the soldering iron on the table to clear the residual tin slag on iron. Because thus doing shall result in serious damage to the soldering iron.
- Please don't replace the solder iron without authorization.
- It is suggested that replace parts with the original accessories.
- Don't get the solder iron wet. Please do not use or take apart the solder iron and pull the cord.
- It is suggested to work in good ventilation environment, or providing small fans by yourselves owing to the soldering iron will produce smoke when soldering.
- Prohibit making any damage to body or objects when use the soldering iron.
- Children don't know the danger of solder iron, so this product should be placed where children are not easy contact or used and storage where providing admitted supervision.



Operational Guidelines

Use numerical control constant temperature welding table

I. Boot Operation

Power-on. Please remember to use groundingly.

II. Sleep/Standby Time Setting

Long press B key, enter the setting item, and then continue to short press B key to traverse the setting item, enter the sleep/standby time setting item:

Short press A key to enter the setting, short press A key to set the time of entering sleep/standby -1 minute, long press A key to set the sleep/standby time to decrease continuously during key press; short press B key to enter sleep/standby +1 minute, long press B key to set the sleep/standby time to increase continuously during key press. When the preset value is reached, release the key. Press the A and B keys at the same time, "ESC" appears on the display, save the settings and exit the settings.



* After setting status timeout, the current setting will be saved automatically and exit.
Sleep/standby time setting range: 1-30 minutes

III. Compensation Temperature Setting

Long press B key to enter the setting item, then continue to press B key to traverse the setting item, enter the compensation temperature setting item:

Short press A key to enter the setting, short press A key, set compensation temperature -1 °C, long press A key, the set compensation temperature will continue to decrease during the press of the key.

Short press B key, set compensation temperature +1 °C, long press B key, set compensation temperature will continue to increase during the press of the key. When the preset temperature value is reached, release the key. Press the A and B keys at the same time, "ESC" appears on the display, save the settings and exit the settings.



* After setting status timeout, the current setting will be saved automatically and exit.
Compensation temperature setting range: -50 to +50 °C

IV. Working Temperature Setting

Long press B key, enter the setting item, then continue to short press B key to traverse the setting item, enter the working temperature setting item:

Short press A key to enter the setting, short press A key to set the working temperature of -1°C . And long press A key, the setting working temperature will continue to decrease rapidly during the press of the key; short press B key to set the working temperature of $+1^{\circ}\text{C}$, long press B key, the setting working temperature will continue to increase rapidly during the press of the key. When the preset working temperature value is reached, release the key. Press the A and B keys at the same time, "ESC" appears on the display, save the settings and exit the settings.



* After setting status timeout, the current setting will be saved automatically and exit.

Working temperature setting range: $100 \sim 400^{\circ}\text{C}$

V. Heating Function

1. In the standby state:

Long press A key, release the key, start to heat up. After warming up to the set target temperature, the target temperature will be maintained.

2. In the working state:

(1) Long press key A, the target temperature will continue to decrease, long press key B, the target temperature will continue to increase. After setting, release the key and wait. Or press A and B at the same time to continue to return to the working state, the temperature will automatically drop/rise to the target value.

(2) Press the A and B keys at the same time, and "ESC" will appear on the display to remind you to exit the working state and return to the idle state.



VI. Sleep Wake Up And Automatic Shutdown

1. In the working state, when the set sleep time is reached, it will enter the sleep state. At this time, the sleep temperature is 100°C . Within 5 minutes during the sleep period, shake the soldering iron to wake up and quickly heat up to the target temperature before sleep. Sleep for 5 minutes without wake-up, the electric iron will automatically shut down, need to restart the power.

2. In standby state, when the electric soldering iron is placed at rest and reaches the set standby time, the display screen will display "SLP" to enter the automatic shutdown countdown, and there is no shaking wake-up within 5 minutes of the countdown. The electric soldering iron will automatically shut down and need to be powered on again.

VII. Fault detection

1. When the startup display is off, check if the electric iron is connected to the power, The power supply voltage should be DC: $12 \sim 24\text{V}$.

2. If the voltage is too high, a "U-E" warning will appear on the display screen. The input voltage should be adjusted to the applicable range, and then the power supply should be switched on again.

3. If the PCB temperature is too high, the "H-E" warning will appear on the display screen. Turn off the power supply and cool it down physically, and then turn on the power supply again.

4. The soldering iron head is installed abnormally, and the display screen displays "S-E" warning. Turn off the power and install the soldering iron head correctly, and then turn on the power again.

VIII. Factory Default Settings

Temperature unit	$^{\circ}\text{C}$
Factory temperature	300°C
Compensation temperature	0°C
Sleep temperature	100°C
Sleep time/Standby time	10min
Automatic shutdown	Countdown to shutdown/Sleep for 5 minutes without waking up, automatic shutdown, power on again and restart.

Welding Nozzle



Warning: * Do not energize without installing welding head !
* When replace welding head, please unplug power line to avoid damaging heating core !

1. Welding nozzle using:

Too high temperature will weaken the welding nozzle function, so choose the temperature as low as possible. The welding nozzle of restoring force is good, even under the low temperature it can also fully complete the welding work. What is more, it can protect temperature sensitive elements.

2. Do not use welding nozzle:

When do not use welding nozzle, do not let welding nozzle in high temperature condition for long time. Or you will make the flux of welding nozzle on change to oxide, which will make the heat conduction of welding nozzle weaker.

3. After use welding nozzle:

After the use, should wipe clean the welding nozzle and plate new tin layer on it to prevent the welding nozzle from oxidation.

4. Elding nozzle maintain

Check and clean the welding nozzle:



Note: Do not file the oxide on welding nozzle with rasper !

a. Connect the power supply, wait for the temperature to stabilize.

b. After the temperature stability, clean the welding nozzle with cleaning sponge, and check it.

c. If welding nozzle on tin part contains black oxide, plate a new tin layer on the welding nozzle, then use leaning sponge to wipe welding nozzle. So repetitive operation to remove the oxide and then plate a new tin layer on the welding nozzle.

d. If welding nozzle becomes deformation or serious erosion, must replace the welding nozzle with a new one (Suggest using the original nozzle).

5. Welding nozzle cleaning:

Should periodically clean the weld nozzle with the cleaning sponge (or with a cleaning wet cloth). Because after welding, the residual slag will produce oxide and carbide which can damage the welding nozzle or cause welding error or make the heat conduction of welding nozzle weaker. Long time continuously using welding nozzle, once a week the welding nozzle should be taken apart to clean the residual slag on the surface, so to prevent welding nozzle damaged and reduce temperature.

6. Extend the welding nozzle life:

a. After each finish the welding work, plate a new tin layer on the welding nozzle to prevent welding nozzle from oxidation and extend the using life.

b. Under the condition of normal working please set the temperature as low as possible. Low temperature can reduce welding nozzle oxidation, as well as can easily to weld components.

c. Only in necessary condition to use thin welding nozzle, because of the thin welding nozzle less durable than the coarse one.

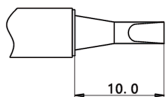
d. Don't use welding nozzle as detection tools, because welding nozzle bending will make coating rupture and shorten its service life.

e. Use less active rosin flux, because the high content of active rosin will accelerate welding nozzle coating corrosion.

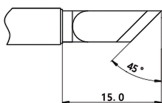
f. When not using welding nozzle, please turn off its power as far as possible to prolong its service life.

g. Don't butt welding nozzle with great heavy stress, because that is not equal to faster heat.

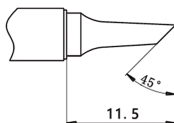
TS Freelead Special Soldering-tip



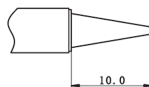
TS-D24



TS-K



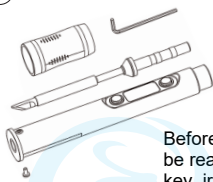
TS-BC2



TS-B2

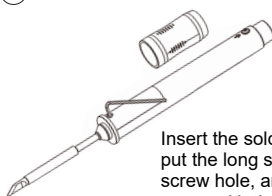
Installation Steps

①



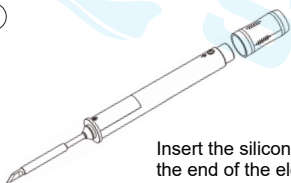
Before installation, you need to be ready: silicone sleeve, hex key, iron head, control end and a long screw.

②



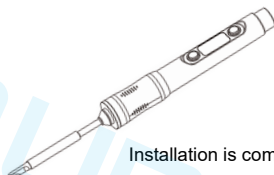
Insert the soldering iron head, put the long screw into the screw hole, and tighten the screw with the hex key tool.

③



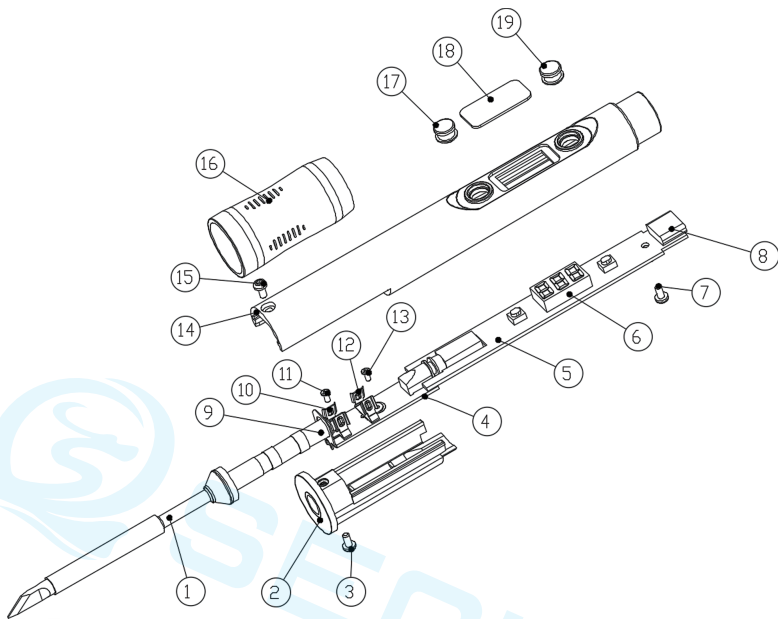
Insert the silicone sleeve from the end of the electric soldering iron.

④



Installation is complete.

Parts List



NO.	Part Name	NO.	Part Name
1	Welding Head	9,10,12	Shrapnel
2	Lower Shell	11,13	Set Screw
3,15	Set Screw Of Welding Head	14	Upper Shell
4,5	PCBA	16	Silica Gel Shield Sleeve
6	Digital Tube	17	Button A
7	Ground Screw	18	Glass Cover Plate
8	Type-c Socket	19	Button B