

## SHENZHEN ATTEN TECHNOLOGY CO., LTD.

- Soldering Iron
- Hot Air Rework Station
- Thermal Wire Stripper
- Automatic Equipment
- Soldering Station
- Multifunctional Maintenance System
- Preheating & Reflow Platform
- Fume Extractor

# ATTEN



## GT-1028/GT-8100A Hot Air Desoldering Station User Manual

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CBN036950 (D)

SHENZHEN ATTEN TECHNOLOGY CO.,LTD.

## Copyright

- The design of this product (including software) and its accessories are under tutelage of laws. Any action to violate relevant right of our product will be penalized by the law. Please consciously observe relevant local laws in the use of this product.
- **Thank you for purchasing this hot air de-soldering station. Please read this manual carefully and pay attention to warnings and precautions mentioned herein before using this product.**

 Warning you against the risk of electric shock.

 Warning you against the risk of physical injury.

## Assumption for user

- We assume that user have common sense and basic relevant electrical operation knowledge before using this product. Children shall not play with the appliance without supervision.

ATTENTION: To avoid damaging to unit and keep operation safe, please read the instruction manual ahead and keep it accessible for any operator.

## Safety

- To avoid electric shock, injury to user or causing fire, please comply with the following items.
- To ensure your safety and avoid damage to the unit, please use parts and accessories that have been approved or recommended by our factory.

### Warning

- When using this product, the temperature of the hot air gun nozzle can reach 100-500°C. In view of the unreasonable application may cause burns or fire, the following items should be strictly observed during use:
- Keep this product away from flammable materials.
- Keep this product out of children's reach.
- Do not use this product if you are inexperienced or have no sufficient necessary knowledge without the guidance of related personnel.
- Do not use this product under wet environment or with wet hands to prevent electric shock.
- Do not modify this product or its accessories without authorization.
- Please turn off the power when replacing parts, and do not resume the use until the equipment is completely cooled down.
- Please use the accessories from the original factory when replacing the product parts.
- Make sure to turn off the power switch when the equipment is temporarily stopped or out of use.

### Caution

- To ensure the normal operation of this product's ESD function, only three-core power cord shall be used as the host connecting line.
- Do not play or do other similar dangerous actions when using this equipment, because it can easily lead to injury to others or yourself.
- Do not use this product for purposes other than de-soldering.
- Do not modify this product and its accessories, otherwise the original warranty will be invalidated or damage may occur to the product.
- When plugging and unplugging the power cord and handle plug, please hold the plug body and do not pull the cord.
- Do not hit the product or its accessories too hard during the operation; otherwise damage may occur to the product.

## Disclaimer

- We will take no responsibility for any personal injury or property damage caused by reasons other than the product quality problem, which may include force majeure (natural disasters, etc.) or personal behavior during the operation of this product.
- This manual is organized, compiled and released by SHENZHEN ATTEN TECHNOLOGY CO., LTD. According to the latest product features. We will not be responsible for further notice of the subsequent improvement of the product and this manual.

## Product warranty

### ● Warranty regulations:

- ① The warranty period of this product is calculated from the date of purchase. During the warranty period, under the condition of normal use of this product, if the fault occurs due to the quality problem of the product itself, according to the content of this warranty card, you can enjoy free maintenance serve at the authorized repair place designated by the company (or the company) by presenting the original warranty card. Please keep the proof of purchase and this warranty card, and present them together when maintenance.
- ② During the warranty period, paid maintenance services will be implemented in the following situations:
  - a. Failure to provide a valid warranty card or valid certificate.
  - b. Items such as the date of purchase and the name of the sales unit are not completely filled in or the warranty card is altered.
  - c. Damage caused by failure to operate in accordance with the usage methods and precautions written in the instruction manual.
  - d. Damage caused by natural disasters or force majeure.
  - e. Damage caused by dismantling, repairing or modifying the product without the authorization of the manufacturer.
  - f. Replacement of fragile and consumable parts.
- ③ All items of the warranty card must be filled in completely by the agent or user directly to obtain a 24-month warranty period.
- ④ Please keep this warranty card properly, it will not be reissued if it is lost.
- ⑤ In special circumstances, the two parties shall negotiate and deal with it.
- ⑥ The final interpretation right belongs to our company.

### User Notice

The warranty period of this product is valid within 24 months from the date of purchase. For any product quality problem, the company will be responsible for free maintenance with this card and purchase certificate.

Note: When this product is returned to the factory for maintenance, the warranty card must be attached, other wise it will not be repaired for free, thank you for your cooperation (please read the warranty regulations for warranty related instructions)

### Product warranty card

Product Model: \_\_\_\_\_ Product No.: \_\_\_\_\_

EX-Factory No.: \_\_\_\_\_ Sold Date: \_\_\_\_\_

This product test result is qualified and met the technical standard.

## Common communication protocols

- 02 06 00 01 FF 00 CRC      Restore factory
  - 02 06 00 02 FF 00 CRC      Turn on air gun  
02 06 00 02 00 00 CRC      Turn off air gun  
02 03 00 02 00 01 CRC      Query the air gun, switch status 1 on 0 off
  - 02 03 00 11 00 03 CRC      Read the running temperature, air volume, and time  
Read the return of the running temperature, air volume, and time command: 02 03 04 01 2C 00 32 00 12 CRC  
Temperature: 0x012c=300°C      Air volume: 0x0032=50%      Time: 0012=18s
  - 02 06 00 21 00 38 CRC      Set air volume: 0x38=56%, Value: 1~99  
02 03 00 21 00 01 CRC      Query the set air volume
  - 02 06 00 22 01 41 CRC      Set the temperature: 0x141=321°C, Value: 100~500  
02 03 00 22 00 01 CRC      Query the temperature  
02 06 00 23 00 11 CRC      Set timing set working time (off <10)  
02 06 00 23 00 01 CRC      View the timing work time
- For more communication protocol commands, please contact the manufacturer.

## The Troubleshoot Guide

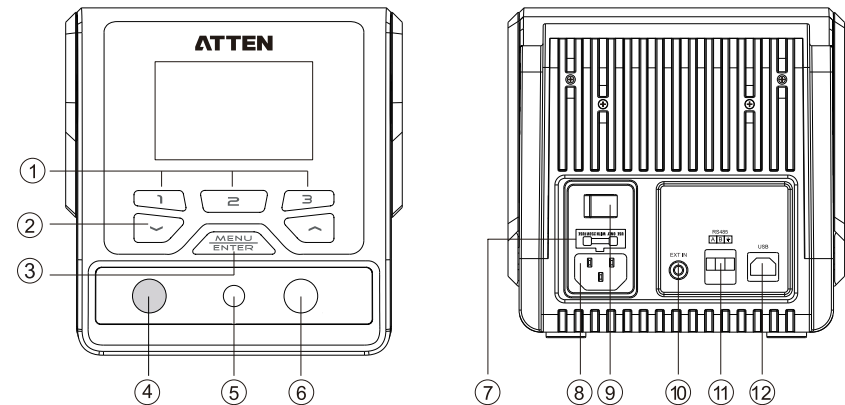
Fault code or fault description	Likely causes of the faults
E2: Open circuit of heating core	1. The heating core is damaged; replace the heating core. 2. The sensor lead is in open circuit; inspect the soldering pencil lead.
E3: Sensor Error	Poor contact of air gun connector or handle.
E4: No zero-cross signal	The zero-cross sensor is damaged or the mains frequency is wrong.
E5: SCR Damage	SCR breakdown
E6: Over-temperature protection	The short circuit occurs to the temperature sensor in the heating core; pleas replace the heating core.
Screen display fault	In case the problem occurs, you can try to adopt the following measures to solve it, if the problem still cannot be solved, please return the equipment to the original factory for inspection. 1. Check if the socket switch is on. 2. Check if there is voltage on the socket. 3. Check if the plug with the power line is loose. 4. Check if the fuse is damaged (if so, please replace the fuse according to the specifications)
Inaccurate temperature	1. Use user temperature compensation function to correct the temperature. 2. Replace the heating core with one produced and sent by the original factory.
Display of messy code	1. In case there is strong interference source from the outside environment, please change the application environment or evacuate from the interference area. 2. In case the internal circuit is abnormal, please send the equipment to the designated after-sales outlet for maintenance.

## Packing list and description of each component

### ● Packing list

	GT-1028	GT-8100A
Host	1 PC	1 PC
Power cord	1 PC	1 PC
Hot air gun handle	1 PC	1 PC
Hot air gun nozzle	3 PCS	3 PCS
Hot air gun holder	1 PC	1 PC
USB cable (A to B)	1 PC	1 PC
Vacuum pen (included tool box)	1 PC	X
Bent suction nozzle	2 PCS	X
Straight suction nozzle	2 PCS	X
4.5mm suction disc *3 / 6.5mm suction disc *3 9.5mm suction disc *3 / 13mm suction disc *3	12 PCS	X
User manual	1 PC	1 PC
Certificate	1 PC	1 PC

### ● Outline drawing



- ① "1", "2", "3" key:  
Long press: save the current temperature parameter  
Short press: quickly retrieve the temperature parameters
- ② "←" / "→" key  
Parameter adjustment /cursor movement
- ③ "MENU" key  
Long press: enter into the main setting menu interface

- ④ Infrared receiver
- ⑤ GT-1028: Vacuum pen interface  
GT-8100A: Nitrogen port
- ⑥ Hot air gun handle interface
- ⑦ Power fuse
- ⑧ Power plug
- ⑨ Power switch
- ⑩ External switch interface
- ⑪ Communication interface
- ⑫ USB interface

## Technical parameters

Model	GT-1028	GT-8100A
Rated operating voltage	AC 220-240V~ 50/60Hz (optionals) / AC 110V-120V~ 60Hz (optionals)	
Power	1200W (220-240V~) / 1000W (110-120V~)	
Fuse	T8A (AC 250V) / T12A (AC 125V)	
Temperature range	100°C~500°C/212°F-932°F	
Air volume range	1%~100%	
Timing time	10~900s (Can be turn off)	
Temperature unit	°C/°F, default°C	
Vacuum pressure	-60Kpa	
Air flow	120L/Min (Max)	
Multiple alarm and protection functions	Heater open circuit alarm, sensor fault alarm, zero crossing signal alarm, SCR damage alarm, over-temperature protection alarm	
Password protection function	Available (Off by default)	
Alarm function	Available (On by default)	
User temperature compensation	±50°C/±90°F	
Multiple language for user interface	Support Chinese / English interface	
Heating power display	5 dynamic power bars	
Temperature adjustment step	Long press for 10 units adjustment, short press for 1 unit adjustment	
Air volume adjustment step	Long press for 2 units adjustment, short press for 1 unit adjustment	
Rapid temperature / air volume / time	3 groups of temperature/air volume/time, can be called quickly	
Working conditions	Temperature 0°C~40°C Relative humidity<85%RH	
Dimension	230(L)x142(W)x145(H)mm	
Weight (N.W.)	GT-1028 ≈4KG	GT-8100A≈3.5KG


## Boot-up screen

- After the station has been switched on, the display will turn on and show the system version number for 2 seconds.(Its version will be different according with version updated, such as Ver: xx, xx stands for any number)



(Means Ver: 0.1 version)

### ● Manual temp compensation

In the common setting interface select  temp compensation function, press “^” “v” key to manually adjust the temperature parameters to complete the temperature calibration. (Temperature compensation range ±50°C / ±90°F)

**Note:** User can calibrate temperature by this function if the displayed temperature is much different from actual-measured temperature after changed a new heater or handle. Its calibration method can be referred as below:

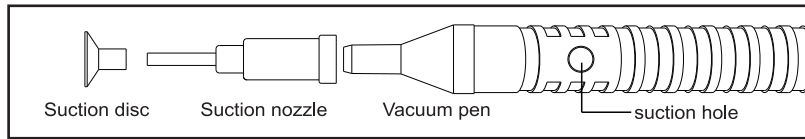
- Set the this handle required temp to a suitable temperature like 350°C/662°F.
- After this setting temperature is stable, use temperature tester to measure the actual temperature.
- For example, its actual-measured temperature is 365°C/689°F, we can get conclusion that the actual measured temperature compared to the setting temperature is 15°C/27°F higher.
- Then set the calibrate temperature to -15°C/-27°F to compensate the error of output temperature.

### Communication function (applicable to models with communication function)

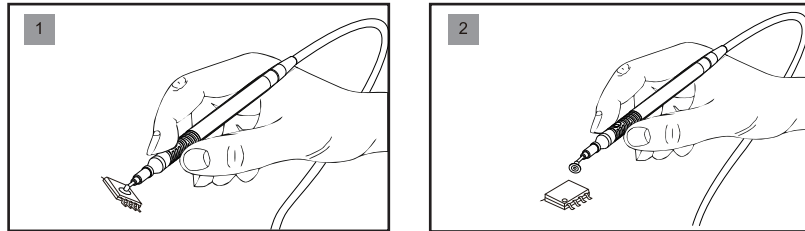
- This product has built-in USB and RS485 communication interface s, and can communicate using the MOUBUS protocol. Please log in to the company official website to download the corresponding DEMO software and communication protocol documents.

## Use method of vacuum pen (Only for GT-1028 )

- In the text working interface, press “  $\frac{\text{MENU}}{\text{ENTER}}$  ” + “2” key to turn on/off the vacuum pen.



Insert the head of the suction nozzle into the hole of the suction disc, and insert the vacuum pen to the end of the nozzle to complete the assembly.



When the vacuum pen function is enabled, the vacuum pen can be operated. Block the air hole of vacuum pen with the finger, and the SMD components can be sucked in.

Loosen the air hole, and put down the components.

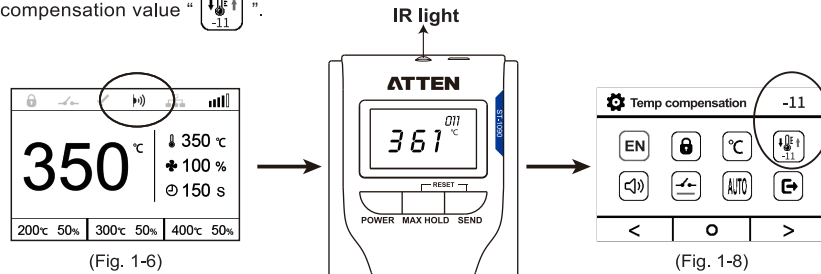
## IR temperature calibration function

- In the text working interface, press “  $\frac{\text{MENU}}{\text{ENTER}}$  ” + “3” key to turn on/off the IR temperature calibration function.

(Fig. 1-6) Means: IR function is turn on ( text working interface display  $\text{IR}$  icon).

(Fig. 1-7) Means: Used with ATTEN temperature tester (ST-1090) , the temperature tester infrared light should be aligned with the infrared receiver of the station, the recommended distance is 10cm~30cm, turn on the hot air gun, align the air outlet with the thermometer temperature sensing point, after the temperature on thermometer screen is stable, press the thermometer "SEND" key, at this time The “  $\text{IR}$  ” in the text working interface turns gray indicates the temperature calibration completed.

(Fig. 1-8) Means: Entering the common setting interface, you can check the current temperature compensation value “  $\frac{\text{DE}}{\text{11}}$  ”.



Temperature tester (Fig. 1-7)

## Working status

- Working normally

(Fig. 1-1) Means: Real temperature is 350°C, air volume is 100%, timing work time is 150s.

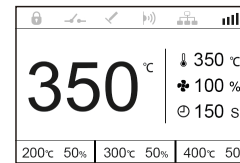
- Standby mode

(Fig. 1-2) Means: When hot air gun putting on the holder, the hot air gun does not blowing air. It will recover to normal work when taking this handle up.

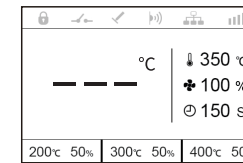
- Sleeping mode

(Fig. 1-3) Means: The hot air gun under sleeping mode, it can not work by taking up the handle. It needs to recover to work by pressing power button on hot air gun.

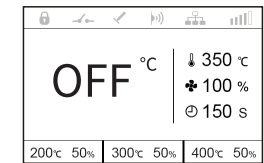
(Note: The default sleep time is 30 minutes. Turn on the station power switch again and the hot air gun will automatically enter the sleep mode)



(Fig. 1-1)



(Fig. 1-2)



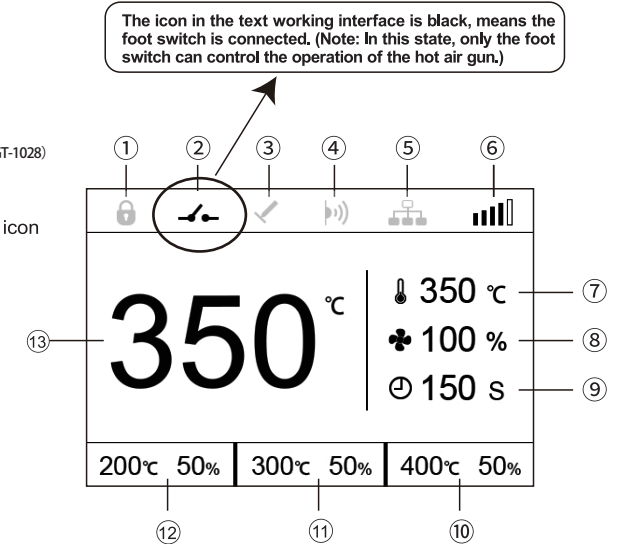
(Fig. 1-3)

## Text working interface icon definition

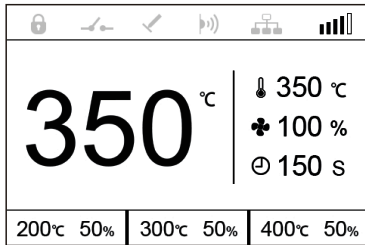
- The gray icon on the top of the interface indicates that this function is not turned on.
- The black icon on the top of the interface indicates that this function is turned on.

- Icon definition

- 1 Lock icon
- 2 Foot switch icon
- 3 Vacuum pen icon (Only for GT-1028)
- 4 Infrared receiver icon
- 5 Net master-slave device icon
- 6 Power bars
- 7 Set temperature
- 8 Set air volume
- 9 Set timing work time
- 10 Rapid parameter 3
- 11 Rapid parameter 2
- 12 Rapid parameter 1
- 13 Real-time temperature



## Text working interface



(When the countdown reaches 10s, the buzzer will ring)

### ● Short press “” “” key

(Temperature, air volume, timing work time) parameters are reduced or increased in one unit.

### ● Long press “” “” key

(Temperature, air volume, timing work time) parameters rapidly reduce or increase.

### ● Rapid parameter retrieve:

Short press “1”, “2”, and “3” keys to quickly retrieve the parameters (temperature, air volume, timing work time).

### ● Quick storage of parameters:

Long press “1”, “2”, and “3” keys to store the current (temperature, air volume timing work time) parameter in the corresponding shortcut key.

### Text working interface “MENU” key definition

#### ● Short press “” key

The cursor can be switched back and forth in the settings of temperature, air volume and timing work time.

#### ● Long press “” key

Enter into the main setting menu interface.

#### ● Press “” key + “1” key

Switch between text working interface and curve working interface

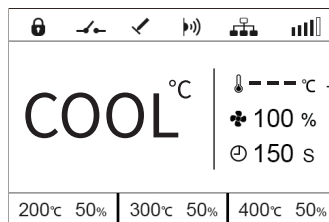
#### ● Press “” key + “2” key

Turn on or off vacuum pen. (Please refer to page 11 for the usage of this function only for GT-1028)

#### ● Press “” key + “3” key

Turn on or off infrared temperature calibration function.

## Cool air function



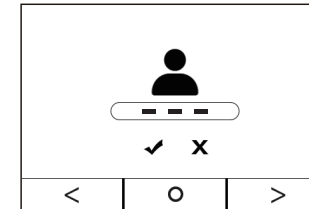
(Fig.1-4)

Real-time temperature is lower than 100°C

- The hot air gun enter into cool air mode when the setting temperature value is under 100°C, and the cool air mode display COOL (Fig. 1-4) and the heater does not heat, the hot air gun blows cool air then the heater quickly cool down.

## Password setting interface

- select Press “2” key or “” key to enter the password setting interface.



### ● Cursor switch:

Short press “1” or “3”key, the cursor can be switched back and forth in the Password setting interface.

### ● Password setting:

Press “” “” key to set the password.

“” Confirmed password setting

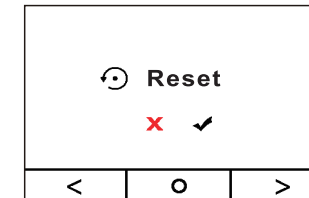
“” Cancel password setting

Password value can be set between 1-999

“ --- ” Indicates no password

## Factory reset

- select Press “2” key or “” key to enter the factory reset interface.

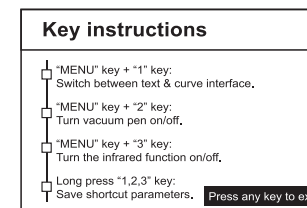


### ● Function switch:

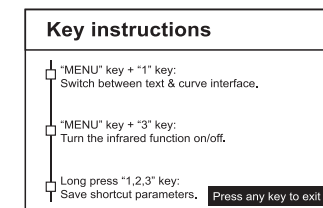
Short press “1” or “3”key, to select “” to confirm factory reset or “” to cancel factory reset, and then press “2” or “” key to confirm the selection.

## Key operation instructions

- select Press “2” key or “” key to enter the key operation interface, in this interface press any key can exit.



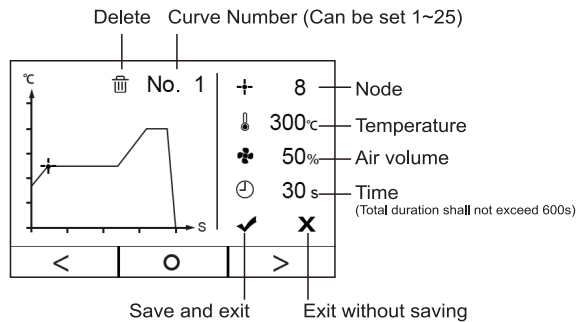
GT-1028






GT-8100A

## Curve-editing interface

- select  Press "2" key or "MENU/ENTER" key to curve-editing interface.



### ● Curve setting steps:

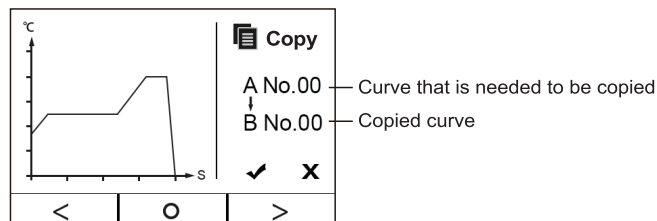
Select curve code (  curve code can be deleted), and then select node to set temperature, air volume and time. Select  save settings and exit .(select  exit without saving).

**Note: Add a node: adjust the node serial number, and then set the corresponding temperature, air volume, and time.**

**Delete a node: just select the corresponding temperature, air volume and time, press "∧" "∨" to adjust, and set them to "—".**

## Curve copy interface

- select  Press "2" key or "MENU/ENTER" key to copy curve interface.



### ● Cursor switch:

Short press "1" or "3"key, the cursor can be switched back and forth in the curve copy interface.

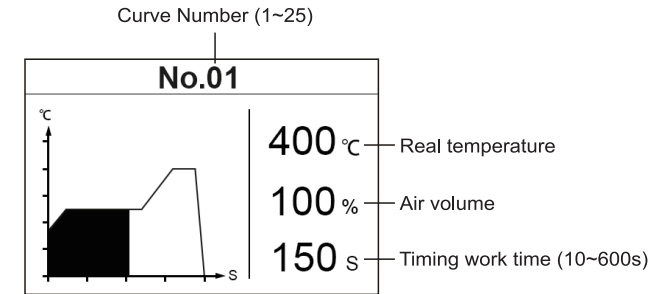
### ● Curve code setting:

Short press "∧" "∨" key, to set the A curve / B curve code. (Can be set 1~25)

### ● Curve copy:

After selected the A and B curves, select  to confirm copy (" "Cancel copy).

## Curve working interface



(When the curve is at the highest point, the buzzer will ring)

### ● Rapid curve retrieve:

Under the curve working interface, short press "1", "2" and "3" key to quickly retrieve the corresponding curvenumber.(Curve editing method is available on page 9)

### ● Short press "∨" "∧" key

Curve numbers is reduced or increased in one unit.

### ● Long press "∨" "∧" key

Curve numbering rapidly decreases or increases.

### ● Start hot air gun:

In the curve work interface hot air gun can't work when you pick up hot air gun directly, it needs to press the button on the handle or short press "MENU+3" key to resume work.

### Curve working interface "MENU" key definition

- Long press "MENU/ENTER" key  
Enter into the main setting menu interface.
- Press "MENU/ENTER" key + "1" key  
Switch between text working interface and curve working interface
- Press "MENU/ENTER" key + "2" key  
Turn on or off vacuum pen. (Please refer to page 11 for the usage of this function only for GT-1028)
- Press "MENU/ENTER" key + "3" key  
Pick up the hot air gun and short press these combination keys, the hot air gun begins to work, and short press the hot air gun again to stop working.

## Menu setting interface

### ● Function switch:

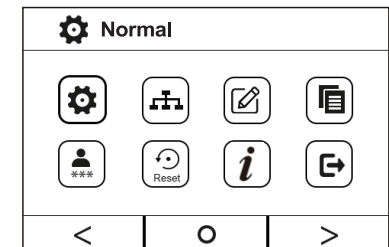
Short press "1" key and "3" key, to switch the cursor back and forth in the menu settings interface .

### ● Function selection:


Short press "2" key or "MENU/ENTER" key, to confirm the selected function in menu setting interface.

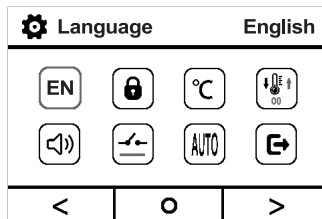
### ● Quick exit:

Long press "MENU/ENTER" to save no parameters, and quickly exit the current Interface.



## Common setting interface


- Select  press “2” key or “ $\frac{\text{MENU}}{\text{ENTER}}$ ” key to enter the common setting interface.



- **Function switch:**




Short press “1”, “2”, “3”, and “ $\frac{\text{MENU}}{\text{ENTER}}$ ” key, the cursor can switch back and forth in the common setting interface.

- **Language Setting:**


Select , press “ $\curvearrowright$ ” “ $\curvearrowleft$ ” key to switch between Chinese and English.

- **Parameter lock:**


Select , press “ $\curvearrowright$ ” “ $\curvearrowleft$ ” key to switch (unlock, locked 1, locked 2) parameter.

 Unlock     Level 1 locked (locked all parameters)     Level 2 locked (except shortcut key unlock, other parameters locked)

- **Temperature unit:**

Select , press “ $\curvearrowright$ ” “ $\curvearrowleft$ ” key to switch between °C / °F temperature units.

- **Temperature compensation:**

Select , short press “ $\curvearrowright$ ” “ $\curvearrowleft$ ” key to reduce or increase parameter in one unit, long press “ $\curvearrowright$ ” “ $\curvearrowleft$ ” key to rapidly reduce or increase parameter.

- **Buzzer:**

Select , press “ $\curvearrowright$ ” “ $\curvearrowleft$ ” key to open or close the buzzer.

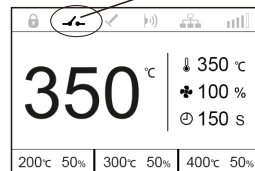
- **Foot switch mode:**

Select , press “ $\curvearrowright$ ” “ $\curvearrowleft$ ” key to switch between foot switch jog and continue mode.


**In jog mode:** Auto-heating mode is invalid.

**In continue mode:** Timing setting is invalid.

**(Note: When using an external foot switch, only the foot switch can control the heat gun to work)**



- **Heating mode:**

Select , press “ $\curvearrowright$ ” “ $\curvearrowleft$ ” key to switch between automatically and manually heating mode. (Only valid in the text interface, and it's automatically by default)

**In automatically mode:** When the hot air gun is placed on the handle bracket, the hot air gun does not blow air, and pick up the hot air gun again, it will resume to work.

**In manually mode:** Control the hot air gun to start/stop operation by the button on the hot air gun handle.

## Common setting interface

- **Return**

select  Press “2” key or “ $\frac{\text{MENU}}{\text{ENTER}}$ ” key to return.

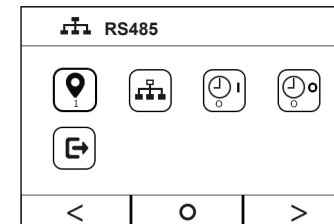
**Note:** Confirmed return, the save setting prompt will pop up (Figure 1-5), select “✓” the station will save the parameters set in the current page, and select “X” the current parameter will not be saved).



(Fig.1-5)

## RS485 interface


- select  Press “2” key or “ $\frac{\text{MENU}}{\text{ENTER}}$ ” key to enter the RS485 interface.



- **Function switch:**

Short press “1” “2” “3” “ $\frac{\text{MENU}}{\text{ENTER}}$ ” key, the cursor can be switched back and forth in the network setting setup interface.



- **RS485 address:**

Select  Press “ $\curvearrowright$ ” “ $\curvearrowleft$ ” to switch over the net address parameters. (The default is 1; 0-255 swappable.)

- **RS485 mode:**

Select  Press “ $\curvearrowright$ ” “ $\curvearrowleft$ ” to switch between master and slave mode.

- **Power-on / shutdown delay:**

Select   Press “ $\curvearrowright$ ” “ $\curvearrowleft$ ” to set the startup / shutdown delay for 0 to 900s. (Only valid in master mode, need to be used with ATTEN smoke purify machine )