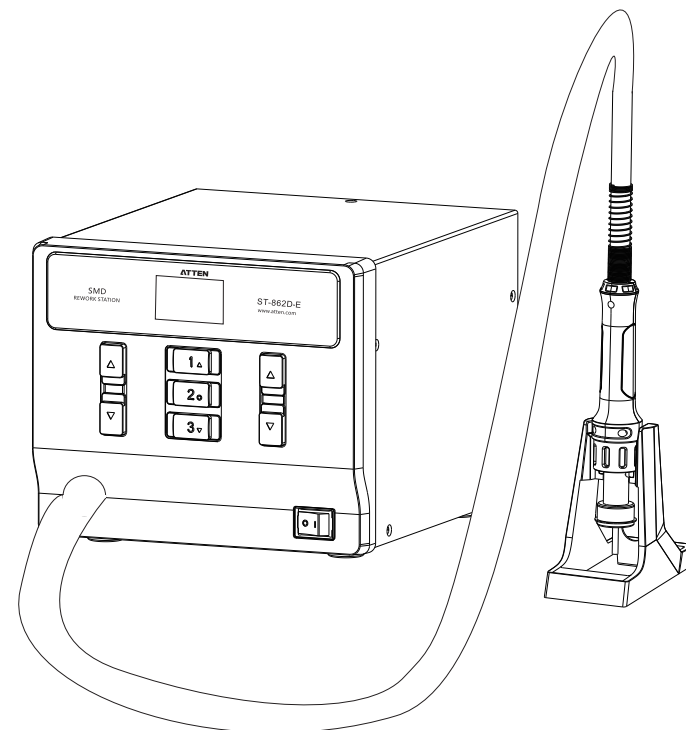


SHENZHEN ATTEN TECHNOLOGY CO., LTD.

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

ATTEN



ST-862D-E Hot Air Station User Manual

SHENZHEN ATTEN TECHNOLOGY CO., LTD.

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MADE IN CHINA
CBN034607 (F)

SHENZHEN ATTEN TECHNOLOGY CO., LTD

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.

Error information

Fault code or fault description	Likely causes of the faults and solution
E2: Open circuit of sensor	Poor contact of air gun connector or handle, please change heater
E3: No zero-cross signal	The zero-cross circuit is damaged, please return to factory repair
E7: Short circuit of sensor	The short circuit occurs to the temperature sensor in the heating core; or heating core open circuit. please replace the heating core.
E8: Over-temperature protection	1. The temperature sensor is abnormal; please replace the heating core. 2. The temperature of heating core is too high; after the heating core is cool, restart the machine.
E10: Heater overheating	solution : return to factory maintenance
E11: Fan broken	solution : return to factory maintenance
E13: The heating output switch component was failed	The heating output switch component was failed, the component has been broken by short circuit, please return to factory repair.
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.

After-sales contact

- If the machine fails, or cannot work normally due to unknown reasons, please contact the local dealer or manufacturer for consultation.
- After-sales email: support@atten.com

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.

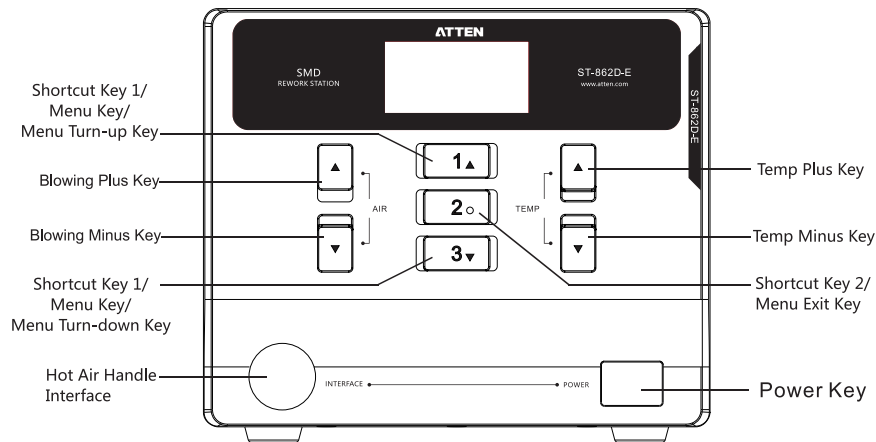
Caution

- 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.

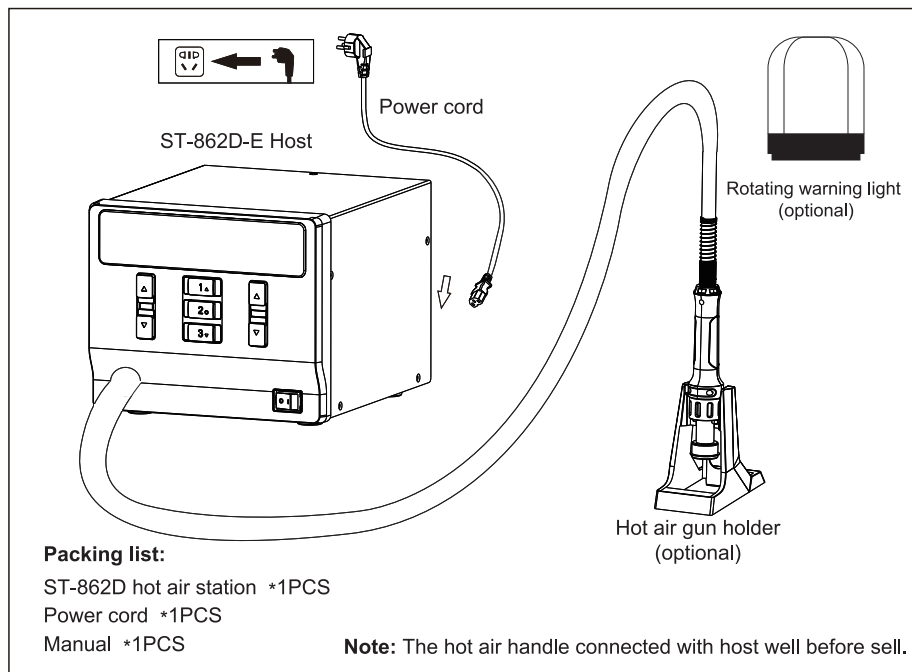
Disclaimer

- 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.

Schematic Diagram of the Whole Equipment



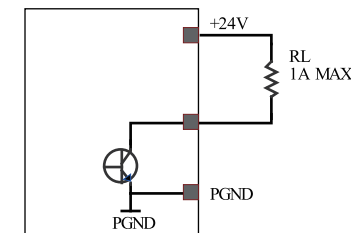
Connection Diagram for the Whole Equipment



10.2 Description of output interface:

Output signal	Description
ERR	device abnormal signal, signal will be effective after the device failure.
RDY	device ready signal signal will be effective under the following conditions. 【In hot air mode】 : the output temperature reaches the set value. 【In cold air mode】 : the output temperature is lower than 100°C.

Note: The maximum output current load is 1A, if the load exceeds the allowable value, it will cause abnormal output or damage to the circuit of the device.



(Principle of output interface)

10.3 Description of external control interface configuration items

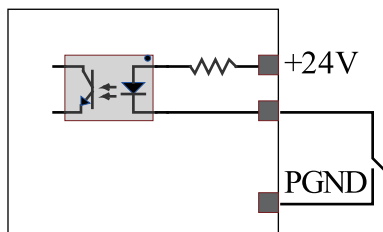
EC option configuration	Option function description
CF0	Default mode: panel operation input, external port input invalid. 【1】
CF1	External start control mode: ① device output will be started after the external switch is connected; ② device output will be stopped when the external switch is disconnected.
CF2	External DC voltage 0~5V control mode: external 0~5V control air volume/temperature output value.
CF3	The CF1 and CF2 option functions control the device at the same time, and the panel and handle control will be taken over by the external interface input control . 【2】

【1】 The HTR ON/OFF port is not affected by the EC configuration item.

【2】 After the external control interface takes over the device control, the input panel can still be operated, but the input air volume and temperature parameters do not affect the output.

10.1 Description of external input interface:

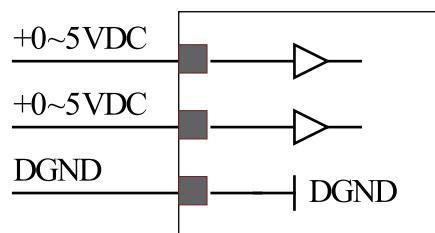
Digital signal input	Description
ON/OFF	Device start/stop (EC configuration item, CF1/CF3 configuration parameter)
HTR ON/OFF	Heater on/off (Irrelevant to EC configuration items)



(Principle of digital input interface)

Analog signal input	Description
VC-AIR	Input DC voltage 0~5V to adjust air volume output value (EC configuration item, CF2/CF3 configuration parameters).
HTR ON/OFF	Input DC voltage 0~5V to adjust temperature output value (EC configuration item, CF2/CF3 configuration parameters).

Note: The rated input DC voltage ranges from 0 to 5VDC. If input AC signal or higher than 5VDC, it will cause abnormal output or damage to the circuit of the device.

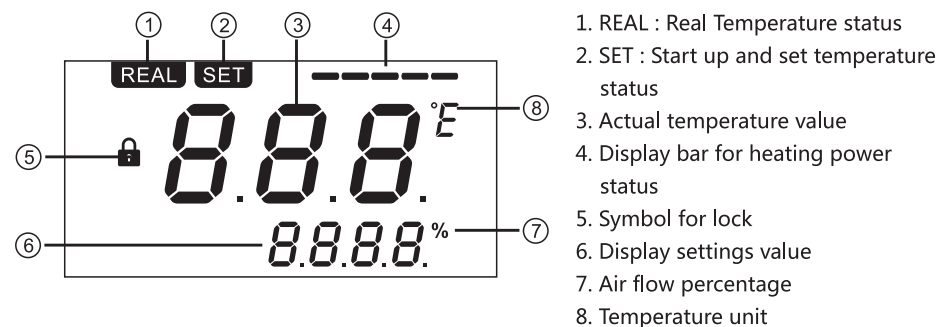


(Principle of analog input interface)

Technical parameters

Model	ST-862D-E
Rated operating voltage	AC 230V 50Hz / AC 110V 60Hz
Power	1000W (Max)
Power fuse	T6.3A (230V AC) / T12A (110V AC)
Temperature range	100°C~600°C / 212°F-896°F
Setting range of air volume	1%~99%
Temperature unit	°C/°F (default °C)
Air flow	20~120L/min
Standby heater cooling function	Support
Abnormal detection of heating element	Heating element remove detection; heating element open circuit detection; heating element overheating detection
Abnormal detection of temperature sensor	Temperature sensor open circuit detection
Beep alarm function	Available
Temperature compensation	±50°C / ±90°F
Heating status display	5 dynamic simulate bars
Temperature adjustment	10 digits (Coarse)/1 digit (Fine-tuning)
Air flow adjustment	2 digits (Coarse)/1 digit (Fine-tuning)
Shortcut temperature / air flow	3 sets shortcut temperatures/air flow for quick selection
Working conditions	Temperature 0°C~40°C Relative humidity<85%RH
Dimension	208(L)x175(W)x150(H)mm
Weight	Approx. 3.34Kg

LCD Description



Boot-up Screen

After the station has been switched on, the display will turn on and show the system version number for one second before switching to the normal display.



(Means ST-862D-E V0.1 version)

Settings

1. Normal display

(FIG. 1-1) shows real temperature is 300°C, the temperature setting value is locked, the air volume is 50% and the heating power value is 3 bars.

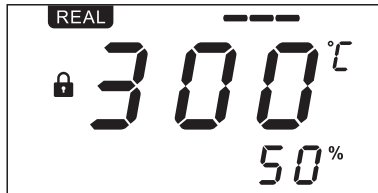


FIG. 1-1

2. Display Of Hot Air Gun Status

(FIG. 1-2) shows when the air gun is off (non-power)) The setting value can be adjusted when the hot air gun is off. When the hot air gun is on, it will work according to the setting value.(FIG. 1-3) When the handle of the air gun is placed on the holder, the hot air gun will automatically stop heating and delay air supply, (the air supply will stop after the heating wire cools) (Used with ATTEN hot air gun holder). Pick up the handle again and press the switch key on the handle, it will resume to work.

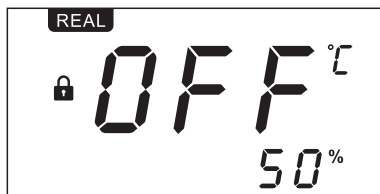


FIG. 1-2

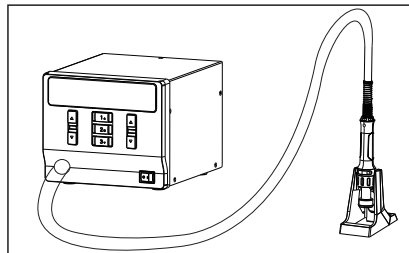


FIG. 1-3

9. Start mode options (S-S) : Heating-up start mode option, there are two options available (Used with ATTEN hot air gun holder)

Nor: Normal (Default)

The standby function is not turn on or entered to standby mode: the device turn on/off is control by handle button, press once to open,press again to close.



The standby mode

The standby function has been turn on but not enter to standby mode: the output is control by handle seat, the handle will start immediately when remove from the handle seat;return handle to handle seat to turn off output

For: In forced mode, turn on/off the device is only control by handle remove/return to handle seat. the handle will start immediately when remove from the handle seat; return handle to handle seat to turn off output. The standby function is forbid under this mode.

10. External interface function

Under the menu mode of "CF0", press "▲" and "▼" to adjust "CF1", "CF2", "CF3", Press [2] Key to exit and save the settings.



Menu mode of "CF0"

6. Button Beeping Function

Under menu Snd mode, user can turn on/ off the beeping function by pressing "▲" or "▼" key. Refer Pic.1-16, OFF disable beeping function; Refer Pic.1-17, ON enables beeping function.

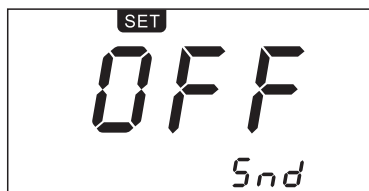


FIG. 1-16

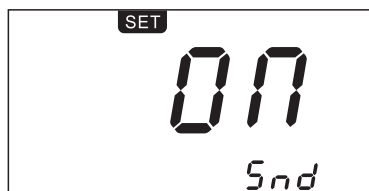


FIG. 1-17

7. Defining Work Function

Under menu HTO mode, it can adjust time of defining work by pressing "▲" or "▼" key (FIG. 1-18, the time of defining work is 20 seconds, "0" means turn off defining work function, the minimum setting time for defining work is 10 seconds, maximum setting time is 900 seconds.); it can turn up or down menu by pressing Button "1" or "3", then press Button "2" to exit and save your setting.



FIG. 1-18



FIG. 1-19

8. Standby Function (Used with ATTEN hot air gun holder)

Under Menu STBY, that press button can adjust standby function. (Pic.1-20) When standby function is off, it can adjust the time (time can be set from 1 to 10mins) when this machine can enter into standby. When standby function is on, this handle can be shut off automatically when putting it into this holder after used, it will recover to work after taking this handle out if within standby time, if beyond the standby time, it don't work until pressing the button in this holder after taking this handle out. (Note: If both timing function and standby function are on simultaneously, timing function will be recount time when the hot air gun working.)

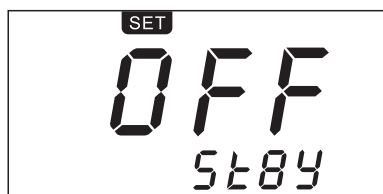
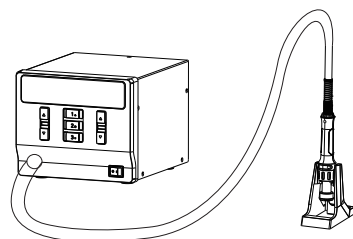


FIG. 1-20



Temperature/Air Flow Setting

1. Adjust the air volume: Press air "▲" or "▼" key (see FIG 1-4). Long press for quickly adjusting. Stop pressing the key for 3 seconds, it will save the setting automatically.
2. Adjust temperature value (when temperature value is locked, it can not be adjusted): Press temperature "▲" or "▼" key, switch to SET status (see figure 1-5). Long press for quickly adjusting, stop pressing the key for 3 seconds, it will automatically save temperature setting, and state switch to REAL.

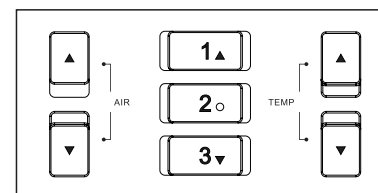


FIG. 1-4

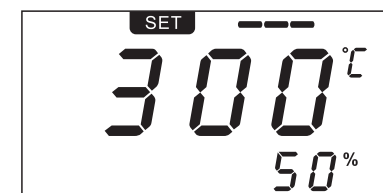


FIG. 1-5

3. The cool air function is used when the temperature setting value under 100 °C.



Cold air display interface

Saving and Retrieving Shortcut Temperature (User define)

1. Retrieving shortcut temperature: It can rapidly retrieving preset temperature and blowing restored in Button "1" / "2" / "3" by pressing Button "1" / "2" / "3". (FIG. 1-6) when working
2. Saving shortcut temperature: It can save the user-define temperature and blowing in Button "1" / "2" / "3" by pressing Button "1" / "2" / "3" more than 2 seconds.

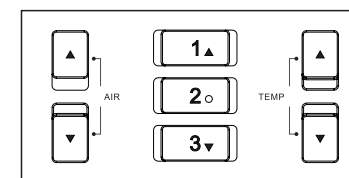


FIG. 1-6

Menu Mode

Enter into menu mode by pressing both Button "1" and "3" more than 3 seconds under working status.

1. Button Definition under Menu Setting Mode

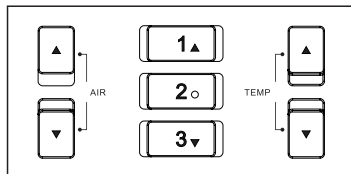


FIG. 1-7

Button "1": Menu page up
Button "2" : Menu exit
Button "3" : Menu page down
Parameter plus
Parameter minus

2. Temperature Locking Function

Under Menu Loc, it can turn on or turn off temperature locking function by pressing "▲" or "▼" key (FIG. 1-8, ON means turn on temperature lock function, OFF means turn off temperature locking function); it can turn up or down menu by pressing Button "1" or "3", then press Button "2" to exit and save your setting.



FIG. 1-8

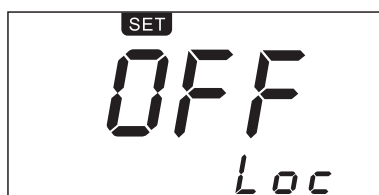


FIG. 1-9

3. Switching Temperature Unit

Under menu C-F mode, it can switch temperature units(°C & °F) by pressing "▲"or"▼"key.
Refer Pic.1-10, set -C- which means temperature unit is °C;
Refer Pic. 1-11, set -F- which means temperature unit is °F.

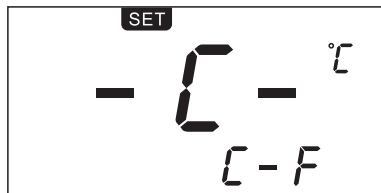


FIG. 1-10

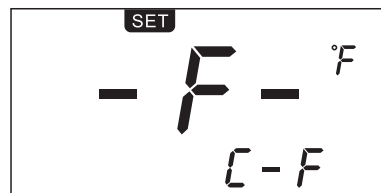


FIG. 1-11

4. Restore Factory Setting

In FAC menu ,press "▲"and"▼"keys to adjust ON/OFF. Press the [2] key when the menu is ON, then return to the normal operation interface to restore factory setting

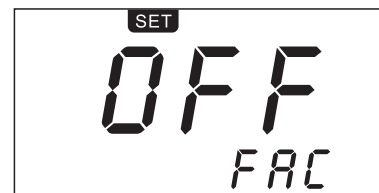


FIG. 1-12



FIG. 1-13

Factory Default:

Loc (temperature locked function): OFF
CAL (calibration value): cleared
Snd (Beeping function): ON
F-C (temperature unit): °C
HTO (Timing operation): OFF

STBY(standby function): OFF
Memory temperature 1: 200 °C
Memory temperature 2: 300 °C
Memory temperature 3: 400 °C

5. Temperature Calibration

Under menu CAL mode, press "▲" or "▼" key to enable temperature calibration function, whose calibration range is -50°C~ 50°C(-90°F~90°F). Calibration value will be negative as actual-measured temperature is lower than setting temperature; Calibration value will be positive as actual-measured temperature is higher than setting temperature.

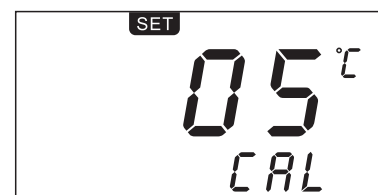


FIG. 1-14

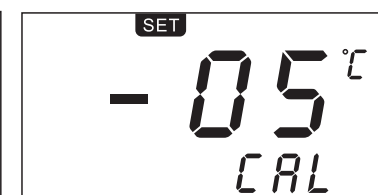


FIG. 1-15

Note: User need calibrate temperature by adjusting its value if the displayed temperature is much different with actual-measured temperature after changing a new heater or tips, its calibration method be referred as below:

1. Set the this handle required calibration as a suitable temperature like 350°C/662°F.
2. After this setting temperature is stable, use temperature tester to measure the actual temperature of its tip.
3. 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.
4. Then set the calibrate temperature to -15°C/-27°F to compensate the error of output temperature.