# 21-10115 UK & 21-10115 EU
# ESD Safe Soldering Station
# User Manual

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Please read this manual before operating the equipment.

Keep manual in accessible place for future reference.

## What's Included

| | |
|---|---|
| Control Unit | 1 No. |
| Soldering Iron | 1 No. |
| Soldering Iron Holder | 1 No. |
| Power Cord (UK or EU) | 1 No. |
| Cleaning Sponge | 1 No. |
| User Manual | |

## Safety Precautions

- This product is meant for use by trained and qualified personnel only.  Keep away from children
- Do not dis-assemble the control unit. There are no user serviceable parts
- Do not use the soldering station in the vicinity of flammable material
- Use appropriate safety gear and exercise caution while using this soldering station
- Do not touch the soldering tip as the temperature can be 200°C to 400°C when in use
- Use proper power cord
- For changing the soldering tip, ensure that the power supply is turned off and allow sufficient time for the tip to cool down.
- The soldering tip should be cleaned by wiping it on the cleaning sponge provided.  This will help get rid of the burnt solder or fluxes that cause oxidation on the soldering tip.  Not cleaning the tip might lead to improper soldering.

## Specifications

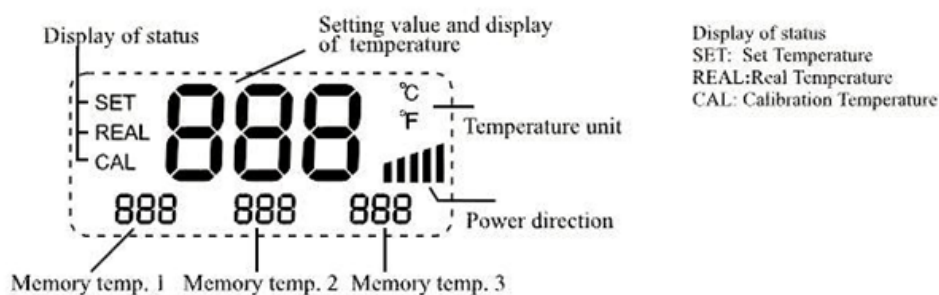| | |
|---|---|
| Input Voltage | 220V AC ±10% 50Hz |
| Plug Type | UK, EU |
| Power Consumption | 60W (Max.) |
| Temperature Controlling Range | 150°C to 450°C (302°F to 842°F) |
| Heater Voltage | 24V AC |
| Temperature Stability | ±2°C (Static) |
| Display | LCD |
| Maximum Surrounding Temperature | 40°C |
| Calibration Method | Digital |
| Temperature Range for Calibration | 50°C to -50°C (122°F to -58°F) |
| Ground Impedance | < 2Ω |
| Ground Voltage | < 2mV |
| Heating Element | 2 Core |

*Specifications are subject to change without prior notice.

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## Operating Instructions

## Control Panel Guide



## LCD Display



Display of status
SET: Set Temperature
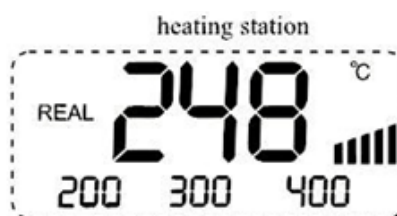REAL: Real Temperature
CAL: Calibration Temperature

**1**. Unpack the unit and check for the contents (please contact Tenma in case any of the contents are missing)

**2**. Insert the soldering iron's plug to the socket on the control panel and tighten the nut on the plug securely. Place the soldering iron into the soldering iron holder.

**3**. Connect the power cord to the control unit and plug into the mains socket. Turn on the power supply and the control unit.

The digital display will show the current set or the last set value of temperature for a few seconds. After a few seconds, it will display the actual temperature as in diagram 1 and diagram 2 below.



(diagram 1)

(diagram 2)

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**4. Adjusting Temperature:** Under normal working conditions, pressing and holding button "▲" or "▼", you can either increase or decrease the temperature quickly. Keeping the button in pressed condition will adjust the temperature setting quickly; short pressing the buttons will enable a step wise temperature adjustment. The display screen shows the temperature value simultaneously. Release button for 3s to store the setting. (Diagram 3)



(diagram 3)
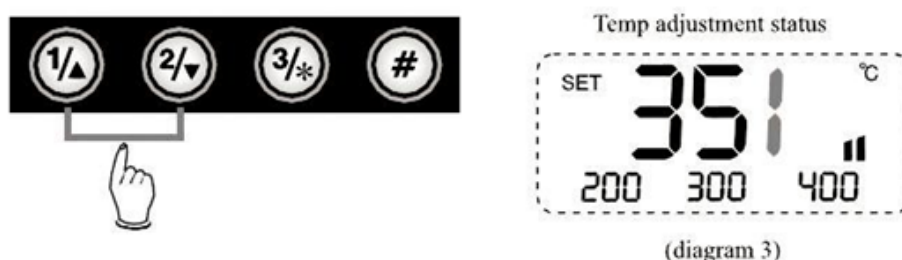
**5. Quickly adjusting temperature:** Under normal working conditions, you can set working temperature quickly by programmable buttons. Press the button once to extract setting temperature stored in button "1, 2 & 3", this way you can easily set the working temperature.
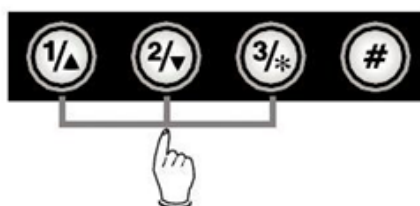


Pressing button "#" and buttons "1, 2, 3", you can store the setting temperature into fast channel knobs "1, 2, 3".
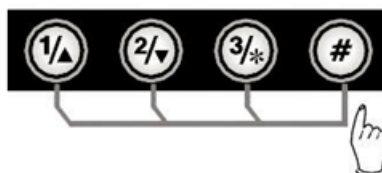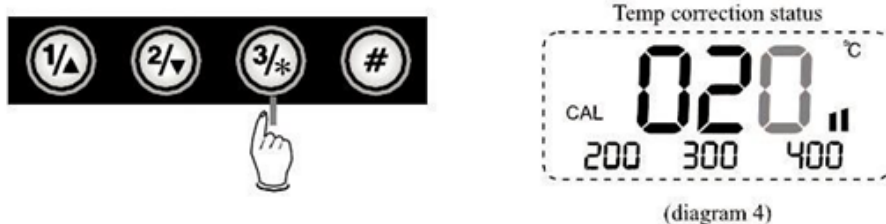


 Temperature hot key

 a. Hot key 1 is usually applied to store a 200°C or lower temperature value at which level the soldering station is on standby

 b. Hot key 2 is a shortcut of temperature between 300°C to 350°C at which level a general soldering job can be done.

 c. Hot key 3 is a fast channel to high temperature of 380°C specified of special welding job.


**6. Temperature calibration:** This is required when a soldering tip or heating element is changed

 a. Enter into calibrating station by long pressing "*" button for >3s.

 b. You can directly adjust the value of calibration by pressing the button "▲" or "▼". The value of calibration is temperature measure minus the setting. (e.g. Actual value 380°C - Setting value 350°C = +30°C. Pressing knob "▲" adds 30°C; Actual value 320°C - Setting value 350°C = 30°C. Pressing knob "▼" subtracts 30°C)

 c. The calibrating temperature range is +50°C to -50°C.

 d. You can press knob "*" to store the final value after you finish calibration. (Diagram 4)

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(diagram 4)

**7. Changing the temperature unit of measure:** In the power off condition, press and hold knob "#", then turn on the station, the temperature unit will be changed between "°C" and "°F" and store automatically
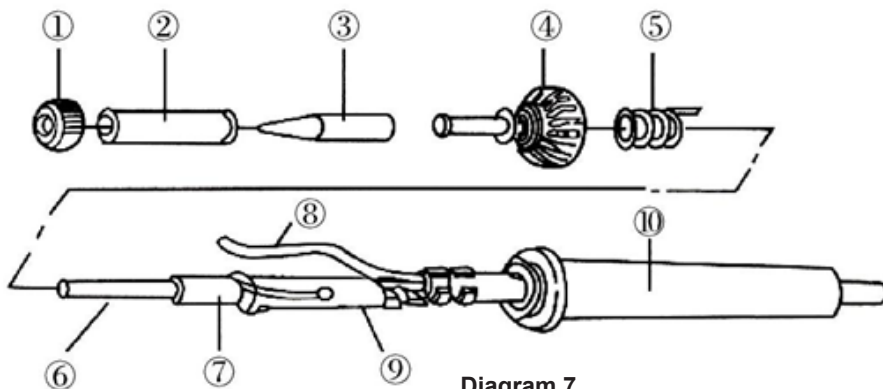


**8. Error Notification:** When "H-E" or "S-E"is displayed on the screen, there is some wrong in heating element or the circuit. (Diagrams 5 and 6). Turn off the unit and follow the instructions to replace the heating element.



(diagram 5)



(diagram 6)
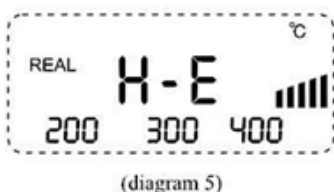
**9. Replacing the heating element**
   a. Power off the unit and unplug the device. Wait for the heating element to cool down.
   b. Loosen the nut (1)
   c. Remove the tip retainer (2) and soldering tip (3)
   d. Unscrew heating contact (4), remove grouping spring(5)
   e. Remove the full heat wire group (6)
   f. Replace the heating element
   g. Reverse the process to secure the heating element in the handle
   h. Preferred heating element : CBB018722



**Diagram 7**

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## 10. Soldering Tip Care and Use

a. Tip Temperature

- High soldering temperatures can degrade the tip
- Use the lowest possible soldering temperature. The excellent thermal recovery characteristics ensure efficient and effective soldering even at low temperatures
- When not in use, do not leave the soldering iron on at a high temperature as the tip's solder plating will get covered by oxide, reduction it's heat conductivity

b. Cleaning

- Clean the tip regularly with a cleaning sponge, as oxides and carbides from the solder and flux can form impurities on the tip. These impurities can result in defective joints or reduce the tip's heat conductivity
- When using the soldering iron continuously, be sure to loosen the tip and remove all oxides at least once a week. This helps prevent seizure and reduction of the tip temperature
- After use, wipe the tip clean and coat with fresh solder.  This helps prevent tip oxidation

## 11. Changing the Soldering Tip

a. Always turn the power OFF when removing or inserting a soldering tip

b. Let the tip to cool down to room temperature before holding it with heat resistant pads

c. Loosen  nut (1 in diagram 7)

d. Pull out the shaft of the soldering iron (2 in diagram 7)

e. Remove the old soldering tip and replace with new one (3 in diagram 7)

f. Reverse the process to secure the soldering tip

g. Preferred  Soldering  Tips : 21-10140, 21-10142, 21-10144, 21-10146, 21-10148, 21-10150, 21-10152, 21-10154, 21-10156, 21-10158

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