VECTECH 191D

THERMOMETER

1. Characteristic

1) The unit with ø0.2mm 191-212 type sensor which can measure the temperature of soldering iron including in lead free soldering.
2) The unit can turn off automatically and it can set the turn-off time.
3) The unit can hold the peak value temperature by "MAX HOLD" key.
4) The Celsius degree and the Fahrenheit degree can convert each other during measurement.

2. Specifications

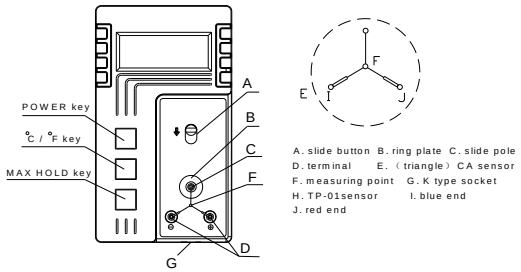
	Centigrade	Fahrenheit
Resolution	1°C	1°F
Range of Measurement	（0～800）°C	（32～1472）°F
Accuracy	±5°C	±9 °F
Turn off time	001～240minutes	
Sensor type	K Thermocouple	
Display	a) 3.5-digit liquid crystal display b) Battery Alarm c) Sensor Burnout	
Power Supply	9V DC Battery	
Dimensions	85mm(W)×35mm(H)×147mm (D)mm 3.35'× 1.38'× 5.79'	
Weight	200g(0.441bs), including battery	
Ambient Temperature Range	0 °C ～ 40 °C	32 °F～104 °F

3. Accessories

NAME	NO.
191-212 sensor (triangle)	10pcs
9VDC battery	1pcs
* K type sensor, TP-01	Option

Note: If you don't order the optional part, it will not be in the package.

4. Parts instruction



A. slide button B. ring plate C. slide pole
D. terminal E. （triangle）CA sensor
F. measuring point G. K type socket
H. TP-01sensor I. blue end
J. red end

WARNING:

The red end connects with ⊕ and the blue end connects with ⊖. The reverse connection will make the thermometer failure to function.

5. Set the thermometer

1) Open the battery case on the back of the unit and install the battery (9V). And then close the battery case. Be sure the battery and the battery button properly connect.
2) Attach the ring plate to the slide pole.
3) The red end of the 191-212 sensor (triangle) connects with ⊕ and the blue end connects with ⊖, the third end without color connect with slide pole. Before using the triangle sensor, make sure the K-type sensor

removal.

4) Press POWER key about 1s and the unit can be used when the unit displays room temperature.
5) Click °C/°F key to select suited thermometric scale (Celsius or Fahrenheit).
6) Click MAX HOLD key and the LCD displays "MAX HOLD". At the mode, the unit will hold the temperature peak value and the unit cannot be used to measure until click the MAX HOLD key again.
7) **Auto turn off:** when the temperature of measuring point is less than 100°C, the thermometer comes to count down and will turn off automatically when up to the setting turn off time.
8) **Setting about Auto turn off function**
   1) When the power of the unit is turned off, press "***POWER***", "***℃/℉***"and "***MAX HOLD***" keys at the same time about 4 seconds into the auto turn off function.
   2) In the turn off function, the POWER key is saving and exit key. After set the auto turn off time, press "***POWER***" key to save the value of auto turn off time and into the measurement mode.
   3) ***"℃/℉"***key: Click it to delay the auto turn off time.
   "MAX HOLD"key: Click it to shorter the auto turn off time.
   Click the "***℃/℉***" key or "***MAX HOLD***" key one time, it can delay or shorter the auto turn off time one minute. If press the "°C/°F" key or "MAX HOLD" key and not loose until the

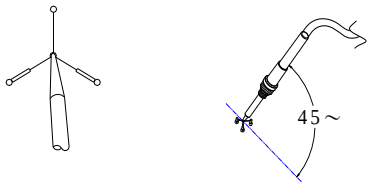
needing value, it can delay or shorter the auto turn off time quickly.

9) When finishing use, press “POWER” key about 2seconds to switch off the power supply. When not use the unit in a long time, take out the battery.

6. Measuring the tip temperature

1) Before measuring, clean the tip and then tin the tip thoroughly.

2) Wet the tip with fresh solder then lay the tip on the measuring point with the correct method as the following. For most tips, the ideal angle is approximately 45 degrees. The temperature will display 2 to 3 seconds. If the reading keeps changing, one of the following conditions is likely to exist:



A. The tip is moving.

B. The sensor is about to expire.

C. There is too much airflow around the tip.

Correct the situation and restart the measurement.

3) If the solder accumulates on the sensor, remove it with a desoldering tool or solder wick.

4) Turn the power off when not in use.

7. The external K-type sensor (option) using

1) To use the external k-type thermo-couple probe, remove the triangle sensor first.

2) Insert the TP-01 probe into the K-type socket on the front of the unit. When room temperature displays, it is ready for use.

3) To measure the temperature of de-soldering nozzle or soldering pot, please use the K type sensor (TP-01).

8. Precaution

1. The triangle sensor is made of very thin (0.2 mm) wire. Handle them with care and do not apply heavy pressure on it, otherwise it may cause breakage.
2. The thermometer house is made of plastic. Do not touch the house with the soldering tip.
3. The measuring point is coated with a special metal alloy that will be wore down after repeated measurements and result in inaccurate readings. At the time, to ensure an accuracy reading, replace the sensor with a new one. The sensor has an expectant life about 50. To ensure reading accuracy, replace the sensor after 50 measurements.
4. Use alcohol to remove any flux adhering on the terminal. Do not use thinner or causticity oil.
5. No using dirty or eroded tips to calibrate temperature. Good heat transfer is only possible with a clean, properly wetted tip with fresh solder. Before measurement, coat the soldering tip with enough fresh solder to ensure proper contact and optimum heat transfer.
6. If the solder accumulates on the sensor, remove it with a desoldering tool or solder wick.
7. Most stations have a temperature indicator or heater lamp to show that the station has reached the set temperature. It is better to measure until the temperature stabilizes.
8. Use K type sensor (TP-01) to measure the solder temperature of soldering pot or other liquid temperature.
9. If the LCD displays “1” which means the sensor is burned out. Please replace the sensor with a new one.
10. If the LCD displays “B” which means the battery is dead, replace the battery with a new one.

Appendix A: thermometer use

1) The thermometer designs for measuring the temperature.

2) Soldering stations should be calibrated when the heating element or sensor on the soldering iron has been replaced and at the manufacturer’s recommended specified time intervals as the electronics within the system has drifted over time.

3) Operators may, at their discretion, calibrate a soldering station when the tip is exchanged with the one of significantly different specifications. (E.g. removing a very small tip and replacing it with a very large tip).

4) The ratio of surface area of tip will have an effect on the tip temperature. To ensure the same temperature, the station needs to be calibrated after changing a new tip.