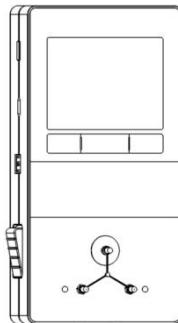




QUICK 191AFThermometer

Instruction Manual



Thank you for purchasing our products. Please keep the instruction manual properly for future reference.

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1.Safety Instructions



CAUTION

- During the installation and use of this product, all electrical safety regulations of the country and regions must be strictly observed.
- If the product does not work properly, please contact the supplier or our company, and do not disassemble or change the product in any way. We are not responsible for any problems caused by unauthorized maintenance or modification.



WARNING

- Don't install the product in a place where the surface is easy to shake or be impacted, as it may damage the product.
- Don't install the product in places where it may be exposed to rain or moisture.
- The product should be used away from places where there is magnetic interference.
- Don't use in flammable and explosive environments.
- Do not hit the sensing part of the sensor.
- The triangular sensor is made of a very thin sensing wire ($\phi 0.2\text{mm}$). Be careful and do not press the sensing wire hard to avoid breakage during operation.
- The housing of the thermometer is made of plastic, please do not touch it with a soldering tip.
- Please charge the battery regularly when the product is not in use for a long time.

2.Overview

This product is a high-precision K-type thermocouple thermometer. It features tempered glass panel and 2.8-inch color touch screen, which can display real-time test temperature and curve. It supports QR code and bar code scanning function, and can manually or automatically save test data for query later. Also, it can be connected to a computer for data file management.

3.Product Characteristics

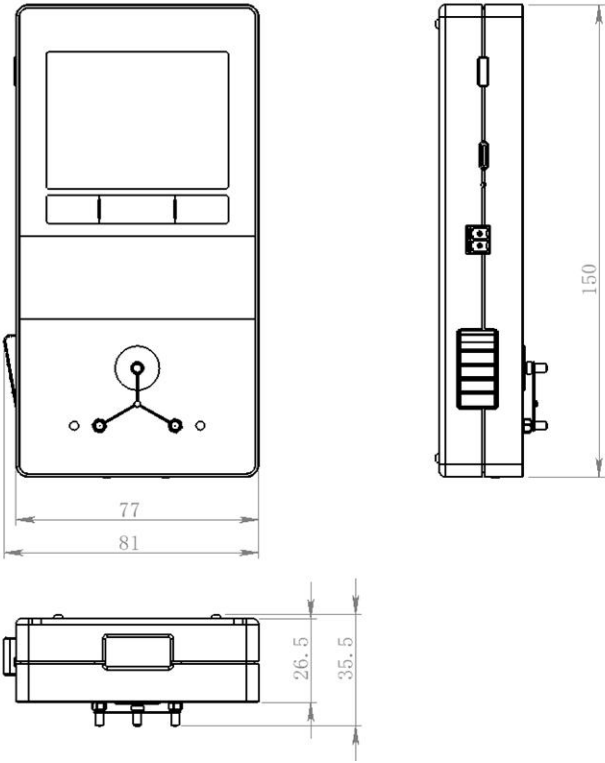
- High-precision digital temperature sensing chip is adopted, and the temperature display resolution is 0.1 °C.
- 2.8-inch color touch screen, built-in 3000Ah large capacity rechargeable lithium battery, 1G of storage space.
- Scan and identify QR code and bar code quickly to obtain soldering station information, and the temperature data is matched and stored.
- Support auto shutdown power saving function, and unit switch between Celsius and Fahrenheit.
- Equipped with RS485 interface, supporting RS485 communication and soldering station temperature calibration.
- TYPE-C interface for charging and connecting computer to export test data.

4.Product Specifications

Model	191AF
Charging interface	TYPE-C
USB communication	TYPE-C
Charging input	DC 5V \pm 1.5A
Sensor type	K-type thermocouple
Temperature range	0~800°C
Resolution	0.1°C/1°F
Accuracy range	\pm 1.5°C
Storage	1Gb
LCD screen	2.8 inch capacitive screen
Dimensions (L*W*H)	81*150*35.5mm
Weight	About 0.28kg

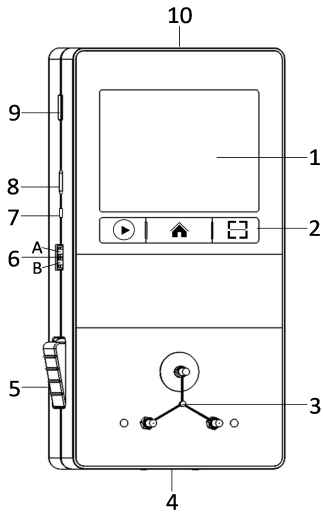
5.Functional Descriptions

5. 1. Dimensions



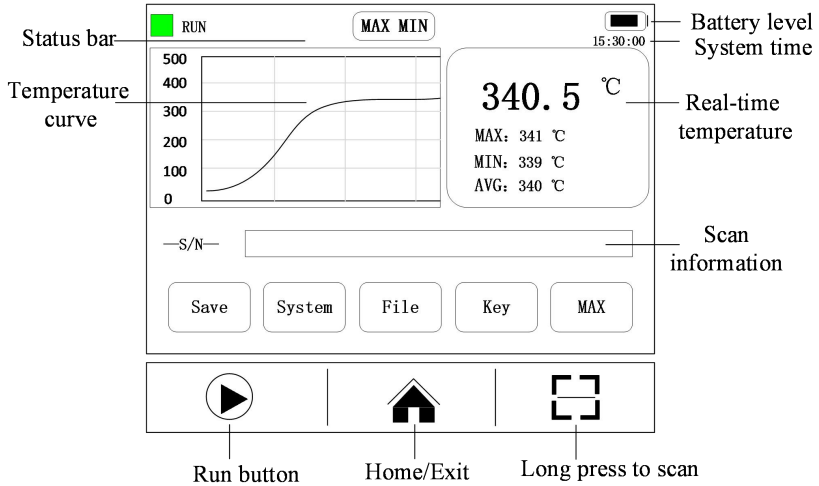
Unit: mm










5. 2. Part Descriptions



NO.	Part Descriptions
1	Display area
2	Touch buttons
3	Triangular sensor
4	External sensor
5	Sensor key
6	RS485 communication
7	Charging indicator
8	TYPE-C interface
9	Power switch
10	Scan window

5. 3. Display Interface and Key Descriptions



Display	Description	Display	Description
 Run button	<input type="checkbox"/> RUN Curve display ON	 Save	Save current temperature and scanning information
	<input type="checkbox"/> STOP Curve display OFF	 System	System parameter setting
	Home button, return to the main interface	 File	View and delete file
	Scan button, long press to scan code	 Key	Call the soft keyboard
	Communication to computer is successful (status bar)	 MAX	Display Max/Min/Avg

6.Charging and Communication with Computer

1) The thermometer battery is charged through a TYPE-C cable with external adapter. When it is fully charged, unplug the external power supply. Color of charging indicator is red during charging, and it is green when fully charged.

2) Be sure to use the special power adapter provided by our company, otherwise the internal circuit of the unit may be damaged.

3) The unit can communicate with computer through the TYPE-C data cable. When the communication is successful, a USB flash disk icon will appear on the computer, and a folder named 191AF is in the USB flash disk. You can view, copy or delete test data files on the computer.

Note: Be sure to use the TYPE-C cable that comes with the unit. Normal two wire TYPE-C power cables cannot communicate with computer.

7.System Parameter Settings

System	
Unit	°C ▼
Y-Range	500 ▼
Test Save	Manual ▼
Power off	10min ▼
Com Adresse	01
Language	English ▼
Time	Day 15 ▲▼
Com Port	CAL ▼
Key Tone	ON ▼
Stability	±1°C ▼

7. 1. Temperature Unit

Options: Celsius/°C, Fahrenheit/°F.

7. 2. Y-axis Range

Set the Y-axis range of the temperature curve display area, with options of 250, 500, 750, and 1300, no unit.

7. 3. Result Saving

Manual: manually press the button to save the test time, current temperature, scanning information, etc. to the internal storage of the unit.

Automatic: the unit automatically determines whether the current measured temperature is stable. If it is within the set range of stability, the test information will be automatically saved to the internal storage of the unit.

7. 4. Auto Shutdown

If the unit is not operated within the set time, it will automatically shut down. Shutdown time options: 5, 10, 15, OFF; unit: min.

7. 5. Communication Address

The communication address is used for RS485 communication, address range: 001 ~ 247.

7. 6. Language Settings

There are three languages to choose from: Chinese, English and traditional Chinese.

7. 7. Time Settings

System time setting, including year, month, day, hour, minute and second.

7. 8. Communication Interface

There are two ways of using RS485 communication interface: communication and calibration.

- 1) Communication: for online communication with the upper computer, in slave mode.
- 2) Calibration: connect to the soldering station or other instruments for automatic temperature calibration, in host mode. This function requires support by the communication protocol of calibration object.

7. 9. Key Tone

ON: Key tone is ON.

OFF: Key tone is OFF.

7. 10. Determine Stability

Determine the stability of the measured temperature within a certain period of time. Options: ± 1 , ± 2 , ± 3 , ± 4 , ± 5 ; unit: °C.


8. File Operation

Press the **File** button on the screen to enter the file operation interface to browse the saved test files.

- 1) Data file display in categories: CSV is test result file, and BMP is image file.
- 2) File deletion: press the Delete button to delete the selected file (select single/multiple/all).
- 3) Online operation: Connect to computer with a data cable, and work on the file on the computer.
- 4) If the internal storage of the unit is insufficient, the file will be saved abnormally. Please delete unnecessary files in time. The green part of the Flash represents current free space of the unit.

9.Soft Keyboard

Press the **Key** button on the screen to display or close the soft keyboard interface. Click a character on the soft keyboard, and the corresponding character will be sent to the input box where the cursor is located. Functions of some buttons are shown in the following table.

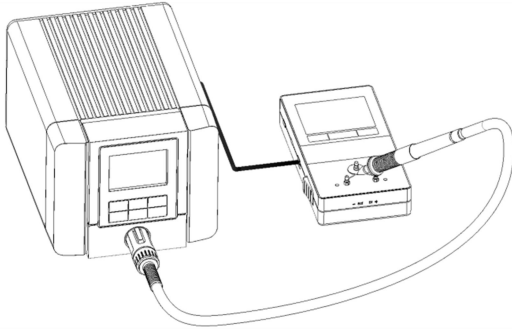
Button	Function	
ESC	Turn off the soft keyboard display	
Del	Delete character at cursor	
Enter	Confirm button	
Clear	Clear the content of the input box where the cursor is located	

10.Auto Calibration

The thermometer has the function of automatic calibration, which can realize automatic temperature calibration of soldering station and other equipment through simple operation. The calibration procedure is as follows:

- 1) Connect the calibration object (taking a soldering station for example) to the RS485 communication interface of the thermometer with a communication cable.
- 2) The thermometer enters the system parameter setting interface, and set the communication address to be consistent with the soldering station address. And then set the communication interface to "calibration", which let the thermometer enter automatic calibration mode.
- 3) Place the soldering tip on the sensor, wait until the displayed temperature is stable, and then press the RUN button (prompt on the screen). If the communication is normal, the screen will show that the communication connection is successful. If fails, please check the wiring and system parameter settings.
- 4) When the connection is successful, and the thermometer determines that the temperature is stable, it starts to calibrate: automatically send the calibration value, read the temperature of the soldering station after calibration, and compare the error. The screen will indicate the success or failure of the calibration. If the result is not displayed for a long time or the calibration fails, this might be due to unstable temperature of the soldering tip. Please do calibration again.
- 5) Exit the calibration mode and set the communication interface to "Communication".

Note: The automatic calibration function requires communication interfaces and protocol support from calibration objects such as soldering stations.



11.Troubleshooting

NO.	Error	Descriptions
1	Real-time temperature displays "- - -"	1) Check if the sensor is connected. 2) In case the sensor is connected, check if the sensor wire is broken.
2	Unable to communicate with computer	Check whether the communication cable is the standard TYPE-C cable.
3	Unable to save file	Check whether there are too many saved files and the storage is full. It is recommended to delete redundant files in a timely manner.

