UV Energy Meter

Code: 86128

User Manual V8.06

Please read this manual carefully before using and reserve it for reference.

I. Product Introduction

UV energy meter can measure UV energy, UV intensity and temperature at the same time. It is suitable for UV energy, UV intensity and temperature detection of UV curing machines, UV dryers, mobile phone UV coating machines, exposure machines, printing machines and other equipment. This meter is suitable for measuring the UV intensity and UV energy of UV LED light sources.

Standards for the product

JJG 879-2015 Verification Regulation of Ultraviolet Radiometers

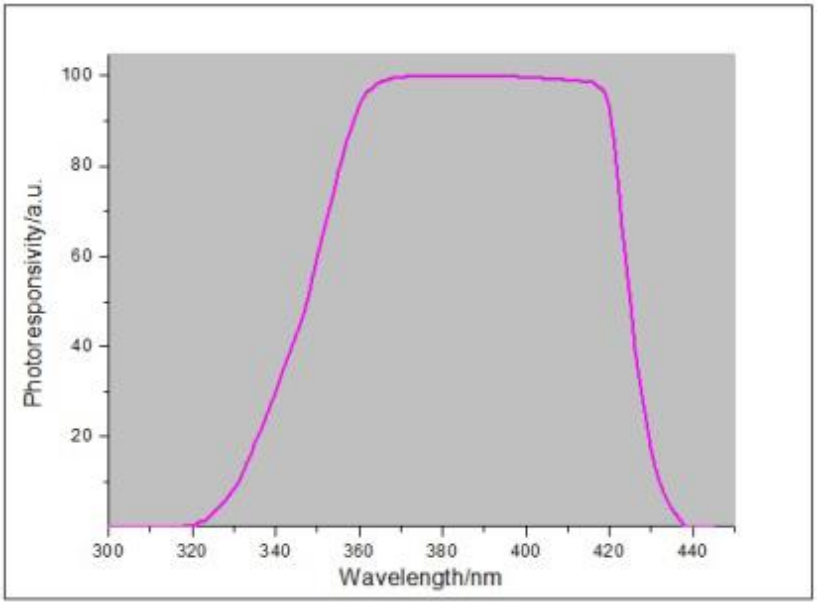
QB/T 2826-2017 Ultraviolet curing offset ink

II. Parameters

Parameter	**Specification**
Spectral range	340nm ~ 420nm, λp = 395nm
Irradiance measuring range	0 ~ 200,000mW/cm²
Irradiance resolution	1 mW/cm²
Energy measuring range	0 ~ 999999mJ/cm²
Energy Measuring accuracy (H is the standard value)	H<50mW/cm²: ±5mW/cm² H≥50mW/cm²: ±10%H, ±5% (typical)
Temperature measuring range	-55°C ~ +125°C
Sampling speed	2048 times/second
Irradiance data storage interval	32 times/second
Temperature data storage interval	2 times/second
Recording period	32 minutes
Power supply	2 AAA alkaline dry batteries
Display	240*160 Dot matrix LCD
Dimension	Diameter 120mm * thickness 13mm
Weight	248g
Supply voltage	DC3V
Operating current	24mA
Operating power consumption	72mW

Parameter	Specification
Working Temperature	0~100℃, 0~85%RH (no condensation)
Storage Temperature	-25~100℃, 0~85%RH (no condensation)

III. Spectral response curve



IV. Characteristics

1. It is the real smart UV energy meter with a large LCD to display the temperature and irradiance curve directly.
2. It is equipped with a USB port and the computer software can read the detailed record data, generating data curve and print out test reports.
3. It is with a high precision fast response temperature sensor and can measure the real temperature in the curing machine dynamically.
4. It is with a built-in heat resisting sheet, can resist high temperature and operate at 100℃ for long time.
5. The meter is with a built-in large memory and can record irradiance data up to 60,000 and temperature data up to 3800.
6. The stored data will not be lost when the power is off and the last test data will be displayed automatically when power is on.
7. It is with a built-in timer and can record the UV curing time accurately.

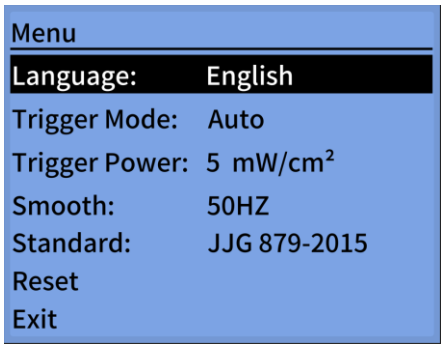
V. Operation

1. Parameter setting

In OFF mode, long press the “POWER” button and go to the setting mode: In the setting mode, “SELECT” button is for selection and “POWER” button is for confirmation.

A. Language: Chinese/English

Select "Language" to enter the language menu, choose the desired language and confirm. The meter will then automatically return to the main menu, displaying text in the selected language. The chosen language will appear next to the "Language" option.



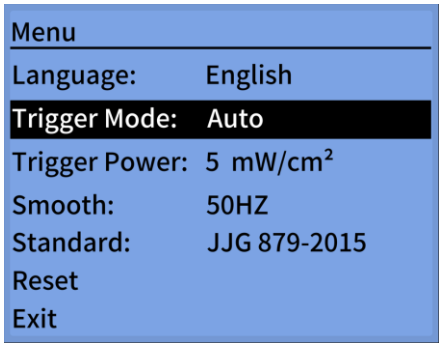
B. Trigger Mode: Auto/Manual

Select the "Trigger Mode" to enter the trigger mode menu. Choose the desired mode (Auto/Manual) and confirm. The meter will then automatically return to the main menu, where the selected trigger mode will be displayed next to the "Trigger Mode" option.

Select Auto, the automatic trigger mode, when the power value is greater than the selected trigger value, the measurement is automatically started.

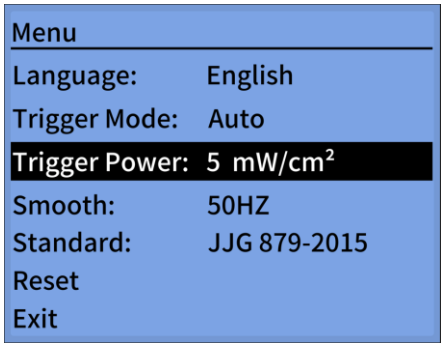
Select Manual, short press the “POWER” button start a measurement and end a measurement.

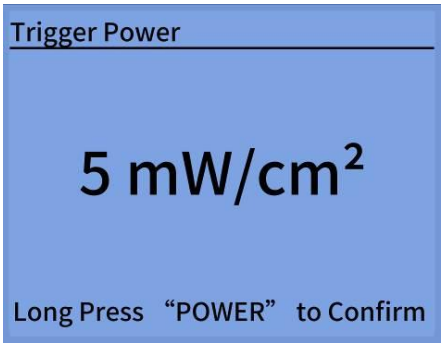
Note: *For the recording time is only 32 minutes, if the production line is very long and need a long time to reach the UV Lamp position, the “AUTO” mode must be selected.*



C. Trigger Power

Select "Trigger Power" to enter the trigger power setting interface. Short press the "SELECT" button to reduce the trigger power, short press the "POWER" button to increase. After setting the required trigger power, long press the "POWER" button to confirm. The meter will automatically exit to the main menu interface. The trigger power just set will be displayed after the "Trigger Power" option.





D. Smooth: OFF/50HZ/60HZ

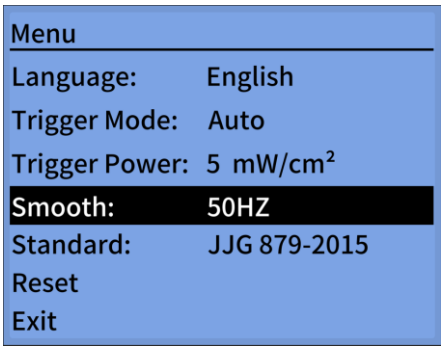
If the UV light source uses AC power supply, the frequency of the AC power will affect the accuracy of the power measurement. The accuracy of power measurement can be improved by selecting the power frequency of the light source.

Select "Smooth" to enter the smooth menu. Choose the desired processing method and confirm. The meter will then automatically exit to the main menu, where the selected smooth method will be displayed next to the "Smooth" option.

OFF: this option can be selected if no smooth processing will be performed and the UV lamp is powered with direct current

50HZ: this option must be selected if frequency of the alternating current is 50HZ

60HZ: this option must be selected if frequency the alternating current is 60HZ

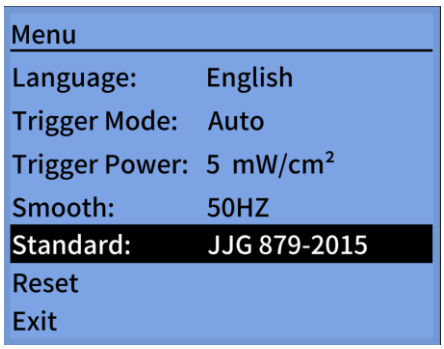


E. Standard Selection

Select "Standard" to enter the standard selection menu. Choose the desired standard and confirm. The meter will then automatically return to the main menu, where the selected standard will be displayed next to the "Standard" option.

- LS-STD (Enterprise): The meter is calibrated according to enterprise standard.

- JJG 879-2015 (National): The meter is calibrated according to Chinese standard.



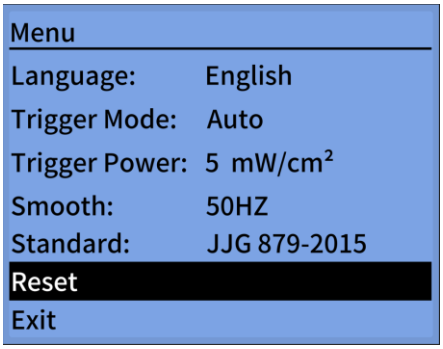
F. Reset:

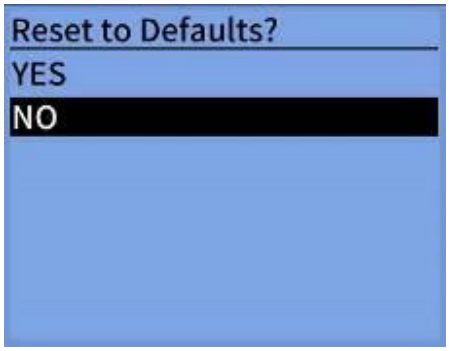
Select the "Reset" option to enter the restore menu. Choose "Yes" or "No" and confirm to exit to the main menu. If "Yes" is selected, the factory settings will be restored (language settings will not be reset).

Default factory settings:

Trigger Mode: Manual

Smooth: 50HZ





G. Exit

After the parameter setting is completed, select the "Exit" option and confirm. The set parameters will be automatically saved and the last measurement result interface (STOP interface) will be entered.

2. ON/OFF

1) In POWER OFF state, short press “POWER” button to power on the meter. After turning on the meter, the meter displays the calibration standard, version number, serial number, etc. and then enters the last measurement interface (STOP interface).

   In the “STOP” interface, long press the “POWER” button to power off the meter.

2) In the “STOP” interface, the meter will automatically power off in 3 minutes without any operation.

3) In the automatic trigger measurement “Ready” state, the longest waiting time is 50 minutes. If the measurement cannot be triggered within 50 minutes, it will automatically turn off.

3. Measurement

In the measurement mode, three operation states exist:

READY: Ready state; in the auto trigger mode, this means the meter is waiting for triggering to begin a measurement.

RUN: Measuring state; this means the meter is collecting data.

STOP: Stop state, this means the data measurement finished.

In measurement mode, 4 kinds of display modes can be selected by using the “SELECT” button:

MAX: Maximum value (including the maximum value of energy, irradiance and temperature)

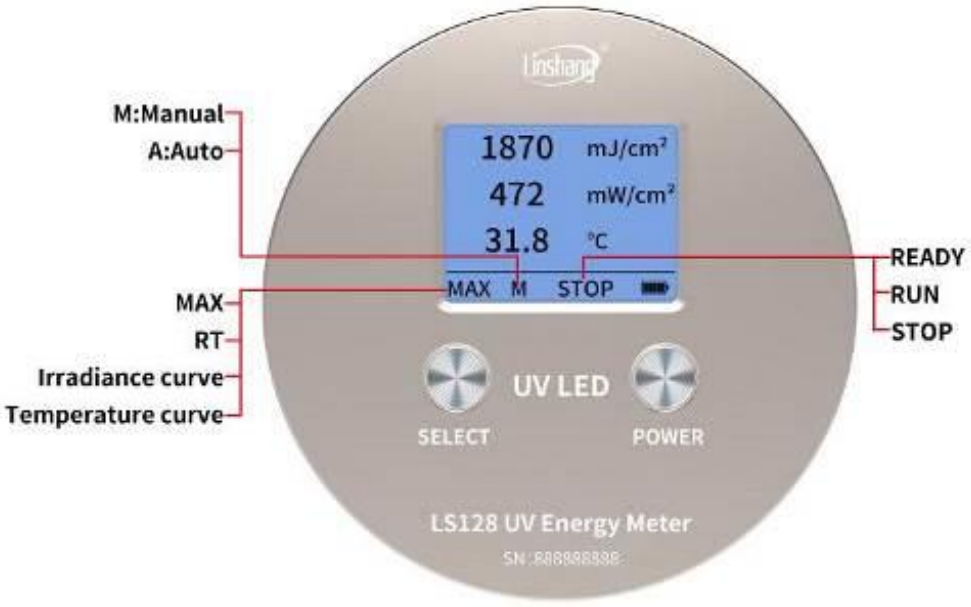
RT: Real-time value (including time, irradiance and temperature)

Irradiance curve: (Can only view in the “STOP” state)

Temperature curve: (Can only view in the “STOP” state)

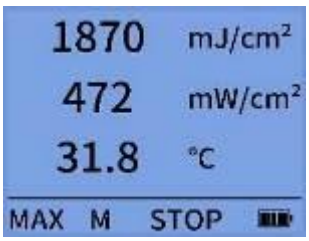
1) **Manual measurement mode:** In the STOP interface. Short press the "POWER" button and then short press the "SELECT" button to confirm the new measurement, clear the historical data (display "-----"), automatically enter the measurement interface (RUN state) after 1s. Short press the "POWER" button or after 32 minutes, the measurement is over and enter the STOP interface.

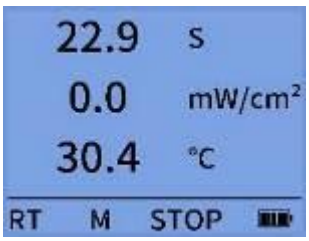
2) **Automatic mode:** After pressing the button to confirm the new measurement, the meter enter the READY state to clear the historical data and wait for the trigger condition (Trigger power) to be met, the energy display "----" and flashing. When the power value is greater than the set trigger power, the trigger condition is met, enter the measurement interface (RUN state). When the recording time reaches 32 minutes or the power value is less than the set trigger power, the measurement is automatically ended and enters the STOP interface.

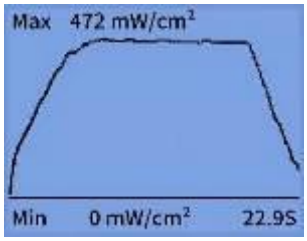


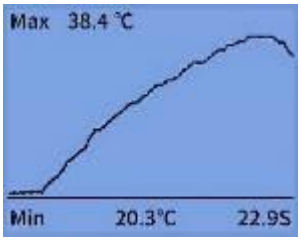
4. The last measurement data view

In the stop status, the interface displays the maximum value of the last measurement.
The maximum value, real-time value, irradiance curve and temperature curve can be viewed by pressing "SELECT" button.

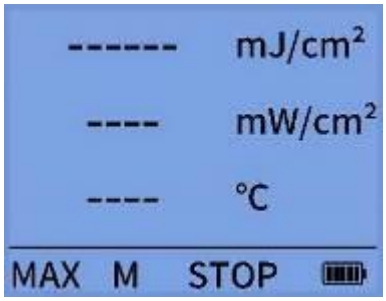








In the stop status, long press the "SELECT" key to clear the current test data. After the data is cleared, "----" is displayed.



5. USB communication

This meter has the function of 32-minutes data recording.

Recording period: 32 minutes

Irradiance data storage interval: 32 times /s, up to 61440 irradiance record data.

Temperature data storage interval: 2 times/s, up to 3840 temperature data

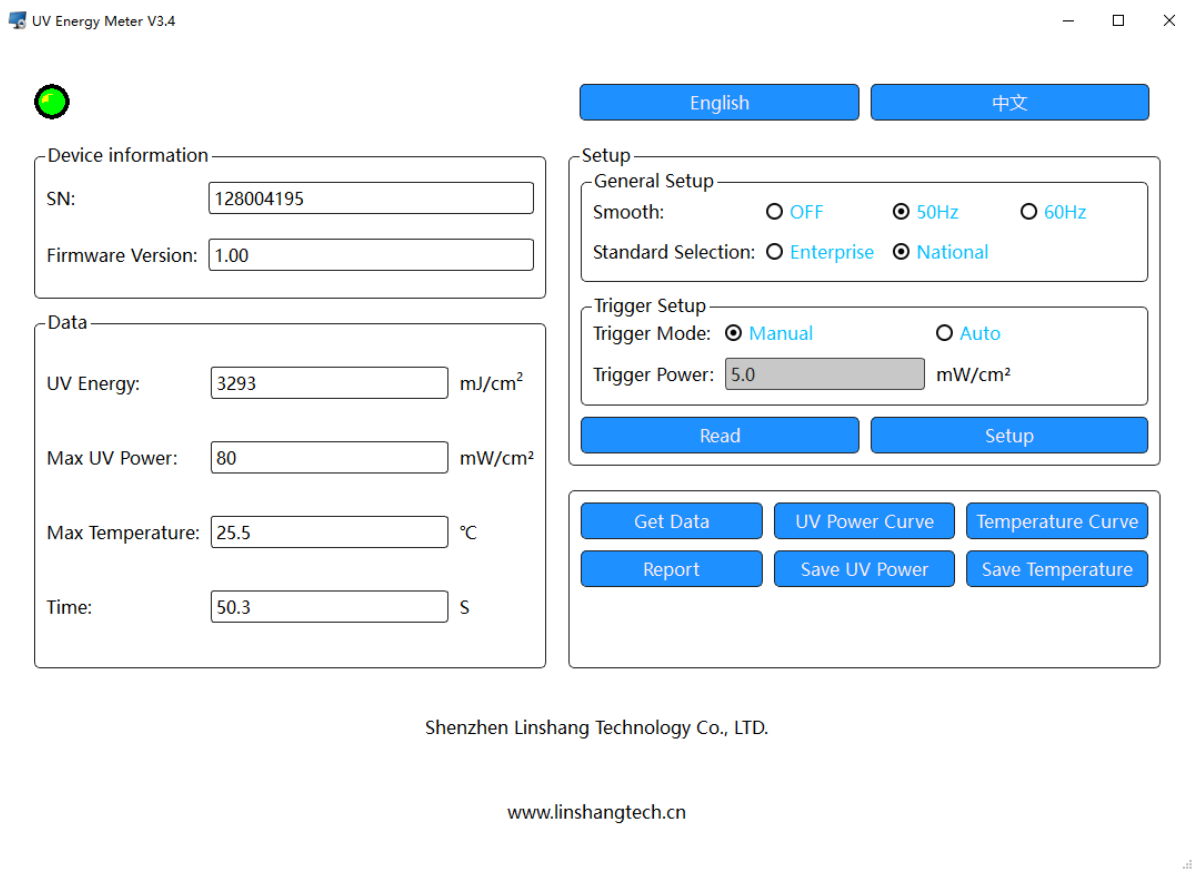
In the “STOP” mode, all recording data in the meter can be read, the curves can be displayed, data can be exported into EXCEL and reports can be printed with the PC software.

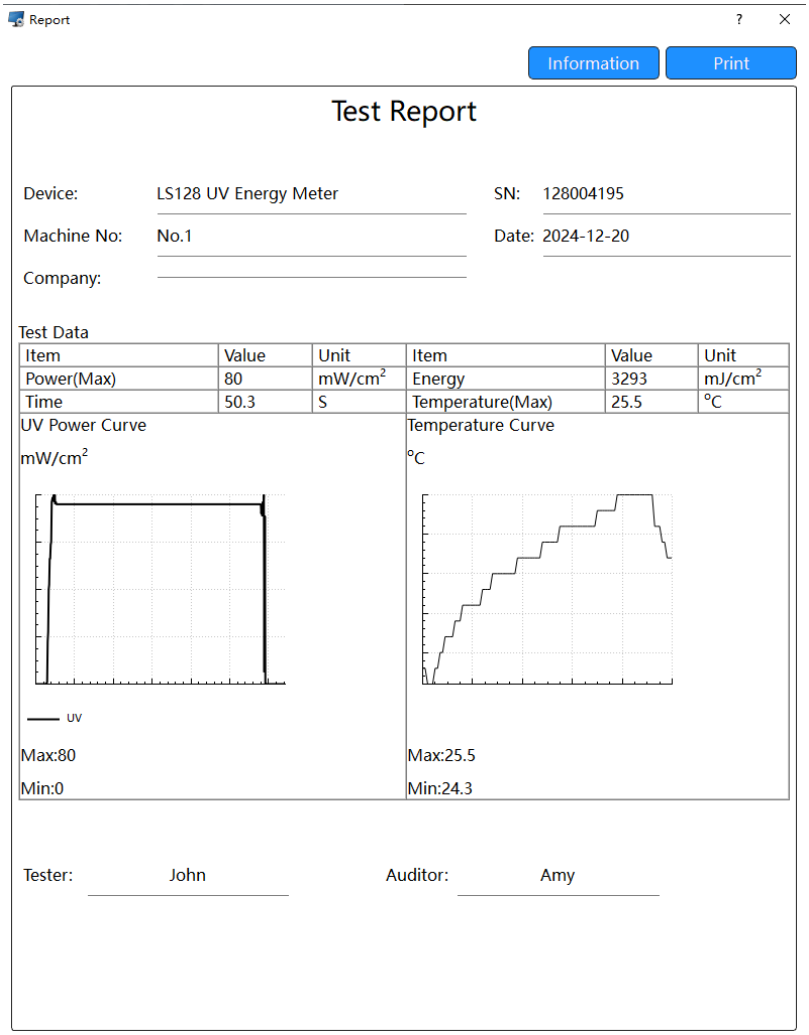
VI. PC Software

The meter is equipped with a USB communication port and it can be connected to the computer with plugging in the USB cable and starting the special PC software, and the data in the meter can be read. The software has various functions, such as parameter configuration, data reading, UV irradiance curve and temperature curve display, data irradiance export into EXCEL, temperature data export into EXCEL and report generation.

The report generation and printing function should be specially explained. For test data, the software can generate a report automatically and print, and if a PDF printer is installed, the electronic version report can be printed in PDF format. This is convenient for the recording and archiving of test data.

Record data can be read by connect USB cable with computer directly (when the meter is connected to the computer with USB port for the first time, you will be prompted to restart the computer so as to PC load the driver automatically). Currently, the software supports Windows system.





VII. Notes

1. The meter sensor is at the back of meter.
2. When not in use, please turn off the meter.
3. Avoid contact with corrosive materials and keep away from high humidity.
4. Please put it in the specialized package after power-off and keep properly.
5. The suggested calibrating period is one year and our company has the standard light source and provides calibration service.
6. If the instrument needs to obtain the calibration certificate of the National Metrology Institute, it should be sent to the South China Institute of Metrology for testing, and before sending the instrument for testing, the "standard selection" option is set to "JJG 879-2015 (National)".
7. For the UV sensor is very sensitive to humidity, the storage environment is very important. For a long time storage, please be sure to keep the meter in dry environment.

VIII. Packing list

No.	Description	Quantity	Unit
1	UV Energy Meter	1	pcs
2	USB cable	1	pcs
3	Anti-static gloves	1	pcs
4	Small cross screwdriver	1	pcs
5	User Manual	1	pcs
6	Calibration Report	1	pcs
7	Plastic Case	1	pcs

IX. Service

1. The meter has one-year warranty. If the meter works abnormally, please send the whole meter to the company for maintenance.
2. Provide users with spare parts and lifelong maintenance services.
3. Provide the users with the meter inspection service for free.
4. Free technical support for long term.