LS120
UV Energy Meter

User Manual V8.12

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 ultraviolet light in high-pressure mercury lamps, halogen lamps and other light sources.

Standards for the product

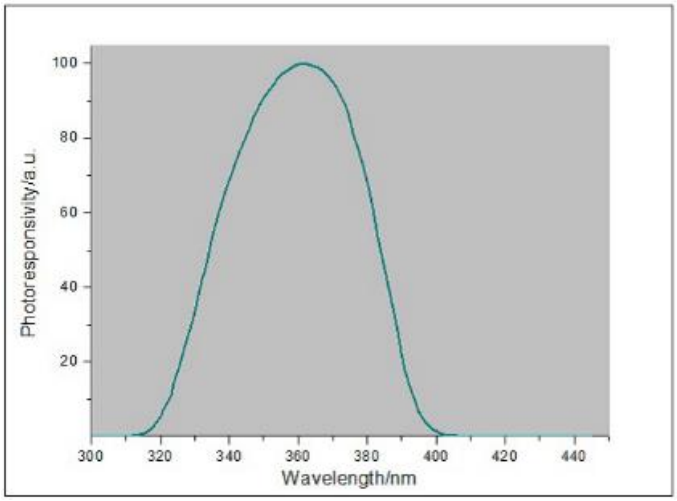
JJG 879-2015 Verification Regulation of Ultraviolet Radiometers

QB/T 2826-2017 Ultraviolet curing offset ink

II. Parameters

1. Spectral range: 315nm ~ 400nm λp = 365nm
2. Irradiance measuring range: 0 ~ 2000mW/cm^2
3. Irradiance resolution: 0.1mW/cm^2
4. Energy measuring range: 0 ~ 999999mJ/cm^2
5. Measuring accuracy(H is the standard value): H<5mW/cm^2：±0.5mW/cm^2，H>=5mW/cm^2：±10%H, ±5% (typical)
6. Temperature measuring range: -55°C ~ +125°C
7. Sampling speed: 2048 times/second
8. Irradiance data storage interval: 2 times/second
9. Temperature data storage interval: 2 times/second
10. Recording period: 32 minutes
11. Power supply: 2 AAA alkaline dry batteries
12. Display: 240*160 Dot matrix LCD
13. Dimension: Diameter 120mm * thickness 13 mm
14. Weight: 327g
15. Supply Voltage：DC3V
16. Operating Current：20mA
17. Operating Power Consumption：60mW

III. Spectral response curve



IV. Characteristics of Meter

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°C 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; the test data can only be deleted manually.
7. It is with high accuracy and has passed many tests of authoritative testing organizations and got certificates.
8. 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. Trigger mode: Auto/Manual

Short press the “SELECT” button and select Auto/Manual

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.

Short press the “POWER” button to confirm and start another setting. Choose “Auto”, the meter enters the trigger power value setting interface; Select Manual, the meter enters the smooth setting interface.

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.*

B. Trigger power: 0.5-5mW/cm² can be set

Short press the “SELECT” button to set the trigger power value and you can long press the button for quick setting.

Short press the “POWER” button to confirm the setting and the meter enters the smooth interface.

C. Smooth processing

If the UV light source uses AC power supply, the frequency of the AC power will affect the accuracy of the power measurement. Short press the "SELECT" button to select the power frequency of the light source.

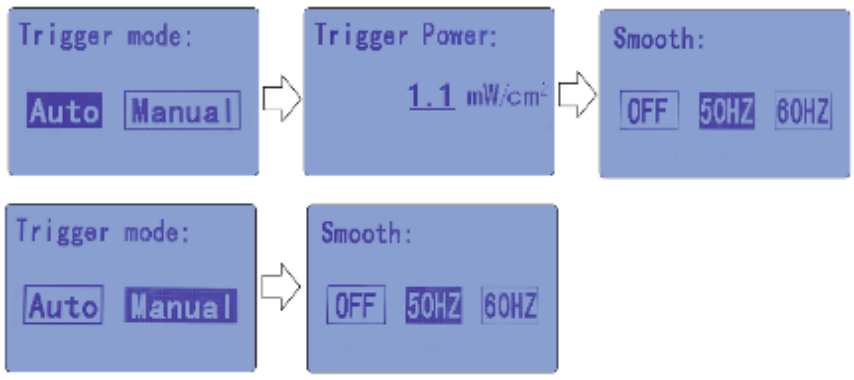
OFF: this option can be selected if no smooth processing will be performed and the UV lamp is powered with direct current

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

D. Factory default settings

- Trigger mode: Manual
- Smooth: 50HZ



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 coefficient, 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)

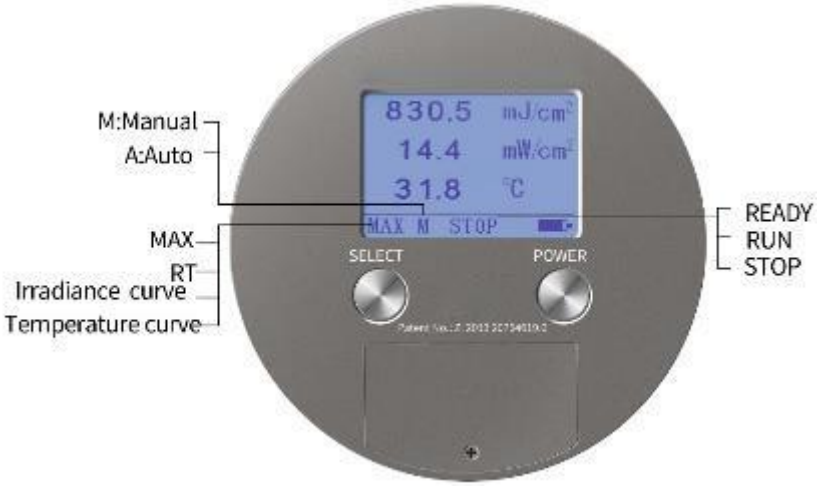
RT: Real-time value (including time, irradiance and temperature)

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

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

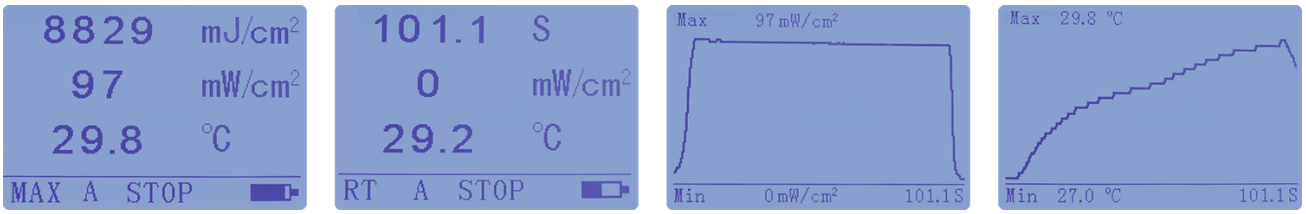
1) **Manual measurement mode:** in the STOP interface. Short press the "POWER" button and then short press the "SELECT" button to confirm the new measurement, clear the historical data (display "-----"), automatically enter the measurement interface (RUN state) after 1s. Short press the "POWER" button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

5. USB communication

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

Recording period: 32 minutes

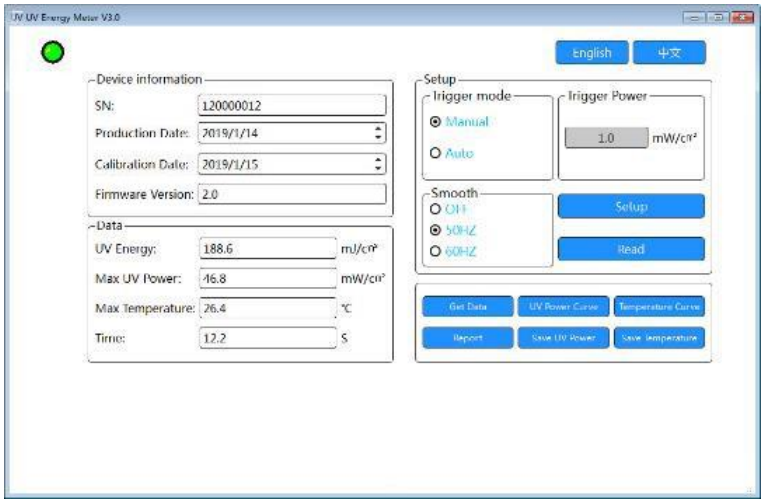
Irradiance data storage interval: 32 times /s, up to 61440 irradiance record data.

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.

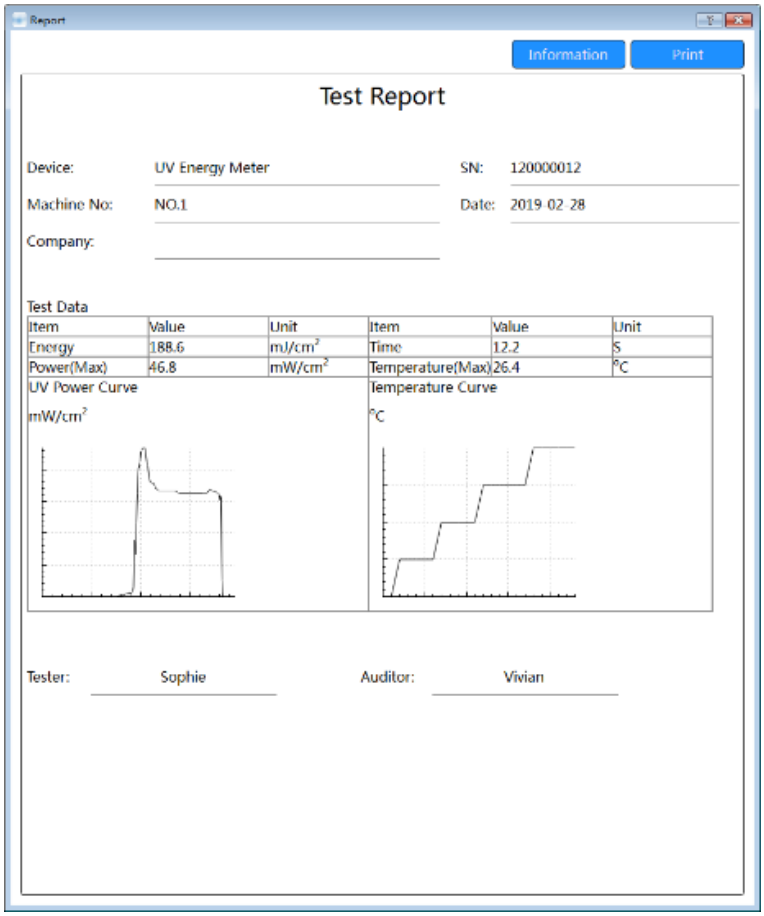
VI. PC Software of Meter

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. (The previous calibration time “Calibration: year/month/day” will be displayed on the boot screen.)
6. 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	Software USB flash disk	1	pcs
4	AAA battery	4	pcs
5	Small cross screwdriver	1	pcs
6	User Manual	1	pcs
7	Calibration Report	1	pcs
8	Certificate/Warranty card	1	pcs
9	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.

Manufacturer: Shenzhen Linshang Technology Co.,Ltd.

Website: www.linshangtech.com

Service hotline: 086-755-86263411

Email: sales21@linshangtech.com