LS120 UV Energy Meter

Operation Instruction V7.3

LS120 can measure the UV energy density, UV irradiance and temperature at the same time. It can be used to:

- Detect the UV energy density, UV irradiance and temperature of UV curing machine.
- Measure the UV irradiance and temperature of machines, such as UV drying machine, exposure machine and printing machine etc.

I. Parameters of LS120

Spectral range: 315nm --- 400nm λ p = 365nm
Irradiance measuring range: 0 --- 2000mW/cm^2
Irradiance resolution: 0.1mW/cm^2
Energy measuring range: 0 --- 999999mJ/cm^2
Energy measuring accuracy: ±10%, ±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 13 mm
Weight: 327g

II. Key operation

1. Parameter setting

In OFF mode, long press the “POWER” key and go to the setting mode:

In the setting mode, “SELECT” key is for selection and “POWER” key is for confirmation.

A: Trigger mode: (the measurement mode of Auto and Manual)

In the Auto mode, when irradiance value is more than a selected trigger threshold value, measurement will start automatically, and when irradiance value is less than this trigger threshold value, measurement will be stop automatically. *(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.)*

In the Manual mode, press the “POWER” key manually to confirm the start and end of measurement.

If Auto mode is selected and “POWER” key is pressed to confirm, go to “Trigger Power” interface and set the trigger threshold value (its range is 0.5mW/cm^2 – 5mW/cm^2) and select the threshold value with “SELECT" key and confirm with “POWER” key.

B: Smooth processing

If the UV lamp is powered with alternating current, the frequency of alternating current will influence the irradiance measurement. Thus, the smooth processing is needed.

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

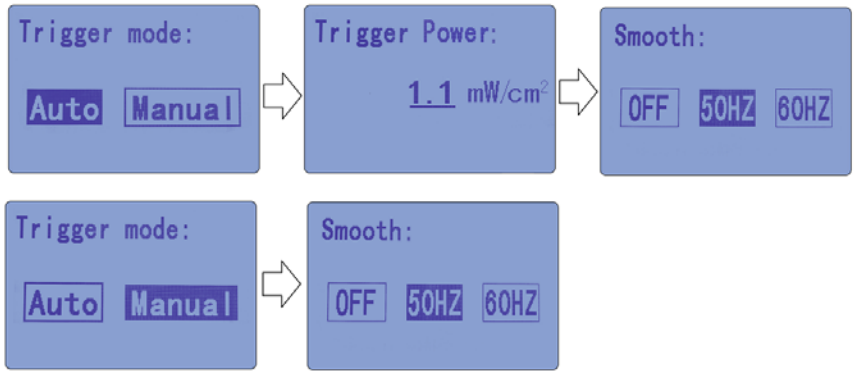
50HZ: this option must be selected if frequency of the alternating current is 50HZ

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

Factory default settings:

Trigger mode: Manual

Smooth: 50HZ



2. ON/OFF

In POWER OFF state, short press “POWER” key to power on.

In POWER ON state and in the “STOP” measurement mode, long press “POWER” key to power off.

When the measurement mode is “STOP”, auto power off in 3 minutes without any operation. When restart, the last measurement value will be displayed.

In the state of “Ready”, the longest waiting time is 50 minutes (*note: the longest recording time is 32 minutes*).

3. Measurement mode

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.

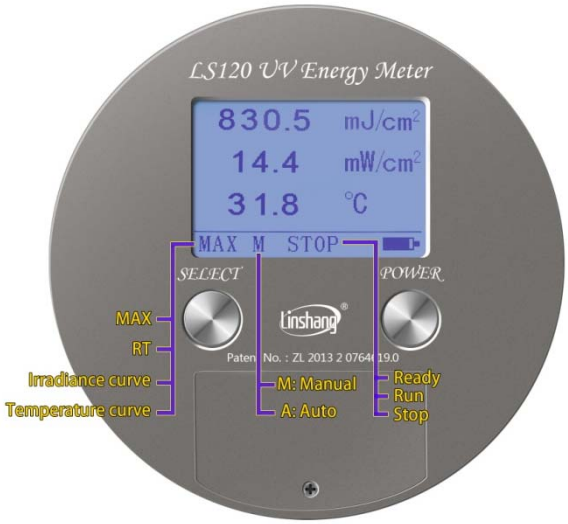
STOP: Stop state, this means the data measurement finished.

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

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)

- After power-on, the meter will display the last measurement value and the operation state of meter is “STOP”. The maximum value, real-time value, irradiance curve and temperature curve can be viewed by pressing "SELECT" key.
- In the state of “RUN”, short press the “POWER” key and the measurement will finish and go into “STOP” state.
- In the state of “STOP”, short press the “POWER” key and the message “A New Measurement? YES/NO” will be displayed; press the “SELECT” key to confirm, a new measurement will start and the last measurement data will be deleted. Press the “POWER” key to cancel the operation.

4. USB communication

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

Recording period: 32 minutes

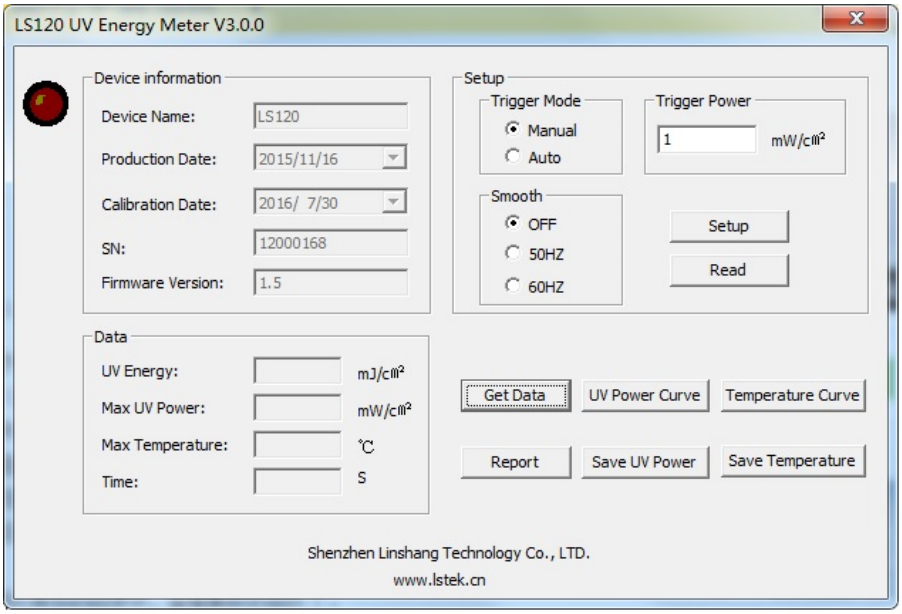
Irradiance data storage interval: 32 times /s, up to 61440 irradiance record data.

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.

III. PC Software of Meter

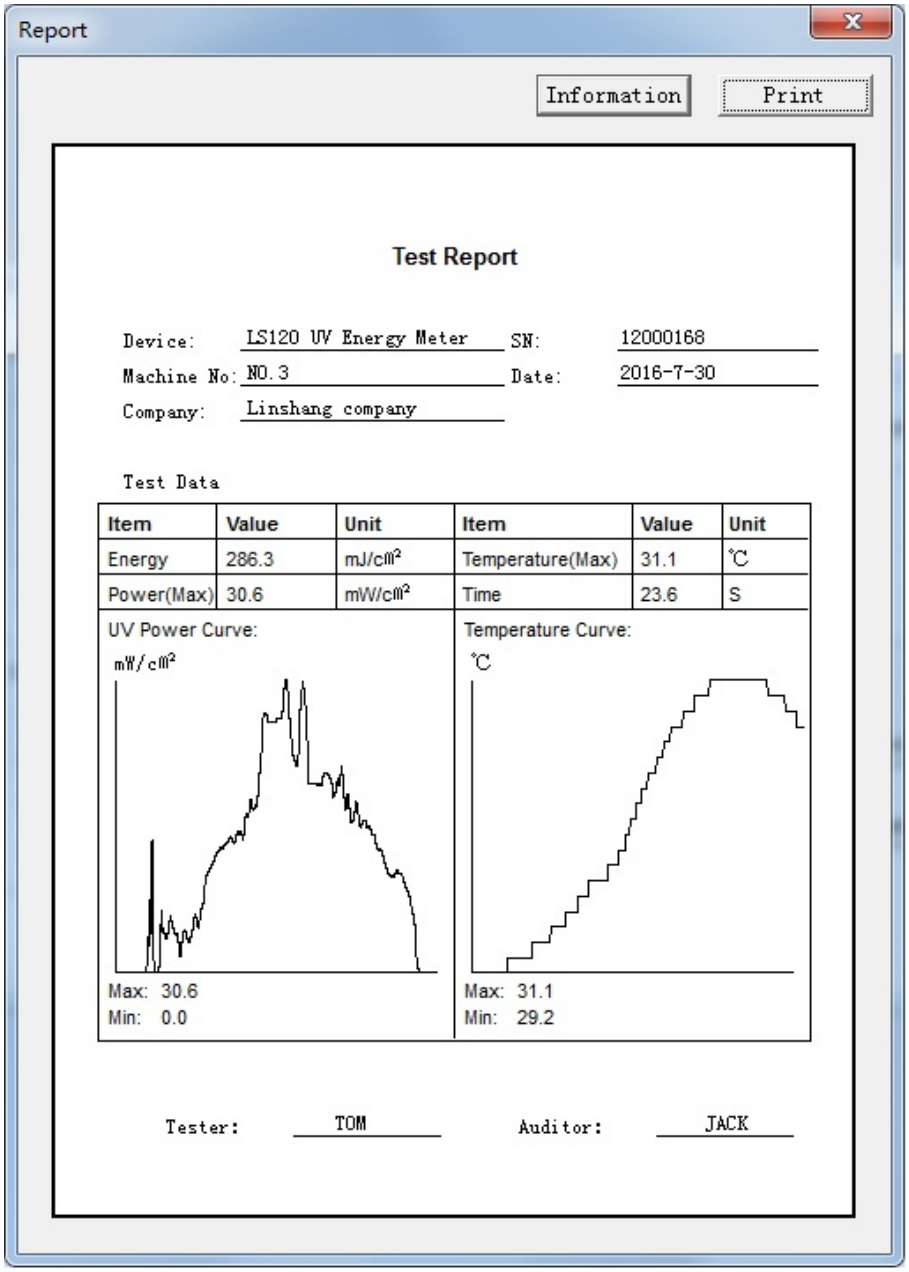
The meter is equipped with a USB communication port and it can be connected to the computer with plugging in the USB cable and starting the special PC software, and the data in the meter can be read. The software has various functions, such as parameter configuration, data reading, UV irradiance curve 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 XP and Windows Vista.



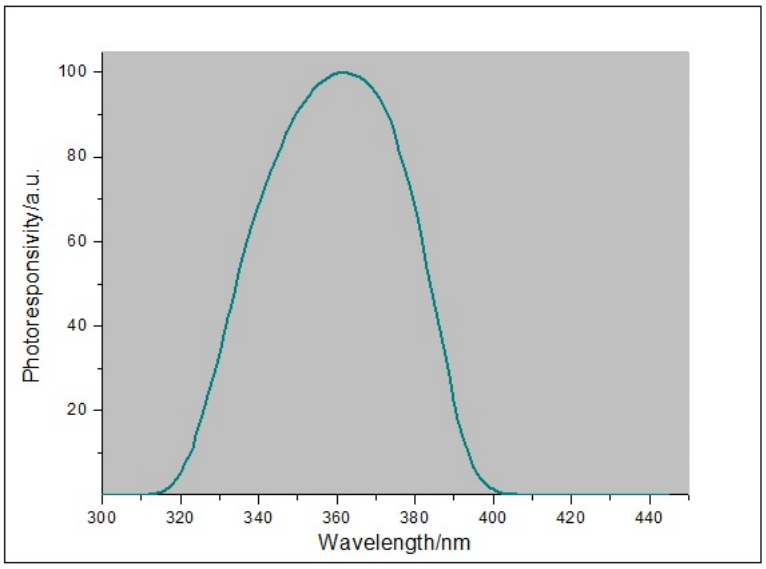
IV. Characteristics of Meter

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℃ 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. Measurement and Notes

1. The meter sensor 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.
7. Spectral response curve of instrument.



VI. Service

Manufacturer: Shenzhen Linshang Technology Co.,Ltd.
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