Shenzhen Linshang Technology Co.,Ltd.

LS133
UV Energy Meter
User Manual V1.2

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

LS133 UV Energy Meter User Manual V1.2

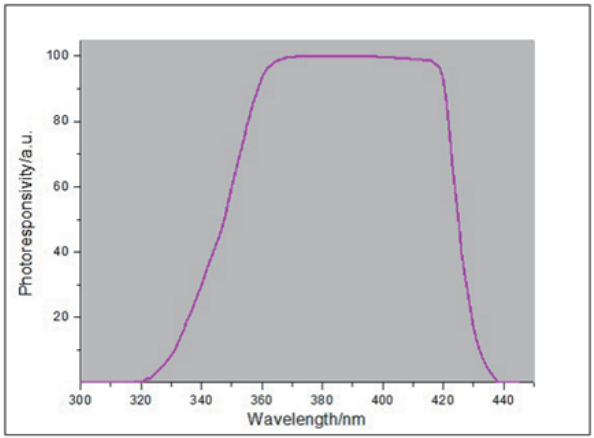
LS133 UV energy meter can measure UV energy, UV intensity and temperature at the same time. It is suitable for UV energy, UV intensity and temperature detection of UV curing machines, UV dryers, mobile phone UV coating machines, exposure machines, printing machines and other equipment. This meter is suitable for measuring the UV intensity and UV energy of UV LED light sources.

I.Parameters

1. Spectral range: 340nm --- 420nm, calibrated at 395nm
2. Irradiance measuring range: 0 --- 40000mW/cm^2
3. Irradiance resolution: 1mW/cm^2
4. Energy measuring range: 0 --- 999999mJ/cm^2
5. Energy measuring accuracy: ±10%, ±5% (typical)
6. Sampling speed: 2048 times/second
7. Recording period: 32 minutes
8. Temperature measuring range: -55°C --- +125°C
9. Power supply: Rechargeable lithium batteries 3.7V@400mAh
10. Display: 128*64 Dot matrix OLED
11. Dimension: 95mm×44 mm×7.6 mm (L*W*H)
12. Weight: 57g



II.Spectral response curve



III.Characteristics

1. Adopt ultra-small size design, the thickness is 7.6mm and the width is 44mm.

2. High-precision and quick-response temperature detector, dynamically measuring the actual temperature in the UV curing machine.

3. Built-in timer, the meter can accurately record and display the UV curing time.

4. Metal shell, high temperature resistant design, the meter can run in an environment of 100°C for a long time.

5. The stored data will not be lost when the power is off and the last test data will be displayed automatically after power on.

6. The meter provide two standard data, users can use Linshang standard and Chinese national standard.

IV.Operation

1.Parameter setting

In OFF mode, long press the “POWER” button for 3s and enter the parameter setting mode:

(1)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.

(2)Trigger power: 0.1-5.0mW/cm^2 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.

(3)Smooth: 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. Short press the "SELECT" button to select the power frequency of the light source (select 50HZ for DC power supply).

50HZ: 50HZ AC.

60HZ: 60HZ AC.

Short press the "POWER" button to confirm the setting and enter the “STOP” interface.

(4)Standard Selection

Short press the “POWER” button to select the standard.

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

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

Short press the “POWER” button to confirm the setting, the meter enters the “STOP” interface.

Factory default settings:

A.Trigger mode: Manual

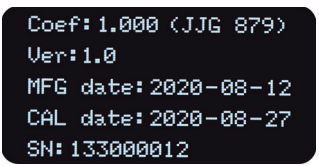
B.Smooth: 50HZ

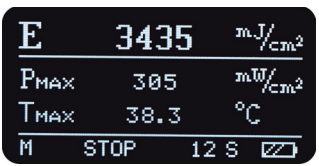
C.Standard Selection: LS-STD (Linshang standard)



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, manufacturing date, calibration date, serial number, etc. and then enters the last measurement interface (STOP interface). As shown below:





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.

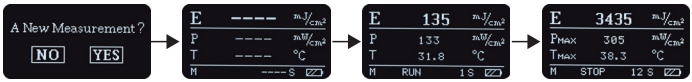
(3)In the automatic trigger measurement “Ready” state, the longest waiting time is 50 minutes. If the measurement cannot be triggered within 50 minutes, it will automatically turn off.

3. Measurement

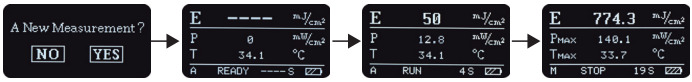
- READY: Ready state; in the auto trigger mode, this means the meter is waiting for triggering to begin a measurement.
- RUN: Measuring state; this means the meter is measuring data.
- STOP: Measurement is over.
- M: Manual measurement mode
- A: Auto measurement mode

(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. The interface dynamically displays energy E, real-time power value P, real-time temperature value T, measurement time. Short press the "POWER" button or after 32 minutes, the measurement is over and enter the STOP interface. The interface

displays the measurement result energy E, maximum power value PMAX, maximum temperature value TMAX and measurement time.



(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). The interface dynamically displays energy E, real-time power value P, real-time temperature value T and measurement time. 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. The interface displays the measurement result energy E, maximum power value PMAX, maximum temperature value TMAX and measurement time.



4.Charging

This meter has a built-in lithium rechargeable battery. Please charge it in time when the battery symbol on the

screen is empty during use. After plugging in the charger, the energy bar in the battery symbol increases, indicating that it is charging. Charging can be done in the following ways:

1. Use an USB data cable, plug it directly into the USB port of the computer.

2. Use the matching 5V switching power supply.

3. The mobile power supply for smart phones.

V.Measurement and Notes

1. The sensor must face the UV light source.

2. When not in use, please long press the “POWER” button 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.)

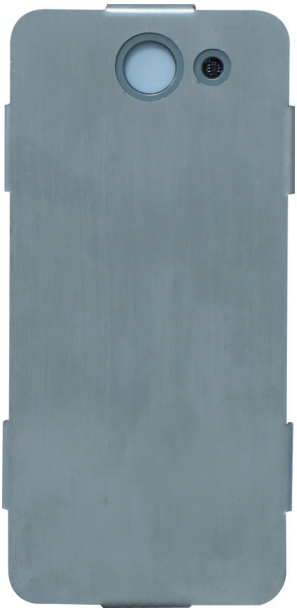
6. For the UV sensor is very sensitive to humidity, the storage environment is very important. For a long time storage, please be sure to keep the meter in dry environment.

VI.Heat Shield

Equipped with heat shield to avoid damage to the screen caused by high-power UV lamps irradiating the instrument at close range.



No Heat Shield



Using Heat Shield

VII.Packing details

No.	Description	Quantity	Unit
1	LS133 UV Energy Meter	1	pcs
2	USB data cable	1	pcs
3	DC5V Power adapter	1	pcs
4	User Manual	1	pcs
5	Certificate/Warranty card	1	pcs
6	Plastic Case	1	pcs
7	Heat Shield	1	pcs

VIII.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.

Guarantee

User Name	Telephone	Post Code
Address		
Product Model		
Purchase Date		
Serial Number		
Invoice Number		

Maintenance Record

Date	Fault Description	Content	Maintenance Time

1.The meter has one-year warranty and life-long maintenance.
2.During the guarantee period, any breakdown belongs to under normal usage circumstance because of the product' s own quality problem, the maintenance will be completed within two days excluding the transportation time.
3.During the guarantee period, the meter which has been repaired more than 3 times can be renewed for free because of the product' s own quality probelm, please reserve the guarantee card carefully.

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