

UV Power Meter

Code: 86123
User Manual V7.16

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

I. Product introduction

UV power meter is an UV power measuring instrument, which is used for measuring the UV radiation luminance. Its unit is micro Watt per square centimeter ($\mu\text{W}/\text{m}^2$). The instrument is also used for the UV rejection measurement.


Standards for the product: *GB/T 31849-2015 Film mounted motor vehicle glass*

II. Parameters

Irradiance measuring range	0 ~ 40000 $\mu\text{W}/\text{cm}^2$
Accuracy (H is standard)	H<50 $\mu\text{W}/\text{cm}^2$: $\pm 5\mu\text{W}/\text{cm}^2$ H $\geq 50\mu\text{W}/\text{cm}^2$: $\pm 10\%H$
UV rejection rate	-999 ~ 100%
Spectral range	260-380nm; $\lambda_p = 365\text{nm}$
Detector Diameter	$\varnothing 10\text{mm}$
Dimensions	125mm \times 69mm \times 24.5mm (L \times W \times H)
Weight	140 grams (including battery)
Power supply	4 \times AAA alkaline batteries
Operating Temperature Range	0 $^{\circ}\text{C}$ ~50 $^{\circ}\text{C}$, 0~85%RH(no condensation)
Storage Temperature Range	-10 $^{\circ}\text{C}$ ~60 $^{\circ}\text{C}$, 0~85%RH(no condensation)
Supply Voltage	DC5V
Operating Current	5mA
Operating Power Consumption	25mW

III. Operation of Buttons

1. Power On / Off

Short press “” button to switch on / off the instrument.

Auto power off in 30 minutes without any operation

2. “HOLD” button

Under measurement conditions, short press “HOLD” button to hold the data on LCD, and the LCD

displays “HOLD” symbol. Press the “HOLD” button again to cancel the state of holding and enter into measuring mode.

3. “0%” button

Under measurement conditions, press “0%” button to set the UV rejection value to 0%.

Measurement for UV rejection rate

After the relative positions of UV lamp and instrument are confirmed and when there is no test material between the UV lamp and instrument, measure the irradiance of UV lamp and press “0%” button to set the UV rejection value to 0%, and then put the test material between the UV lamp and instrument (the positions of instrument and the lamp shall not be changed), the UV rejection value of the material will display on the LCD.

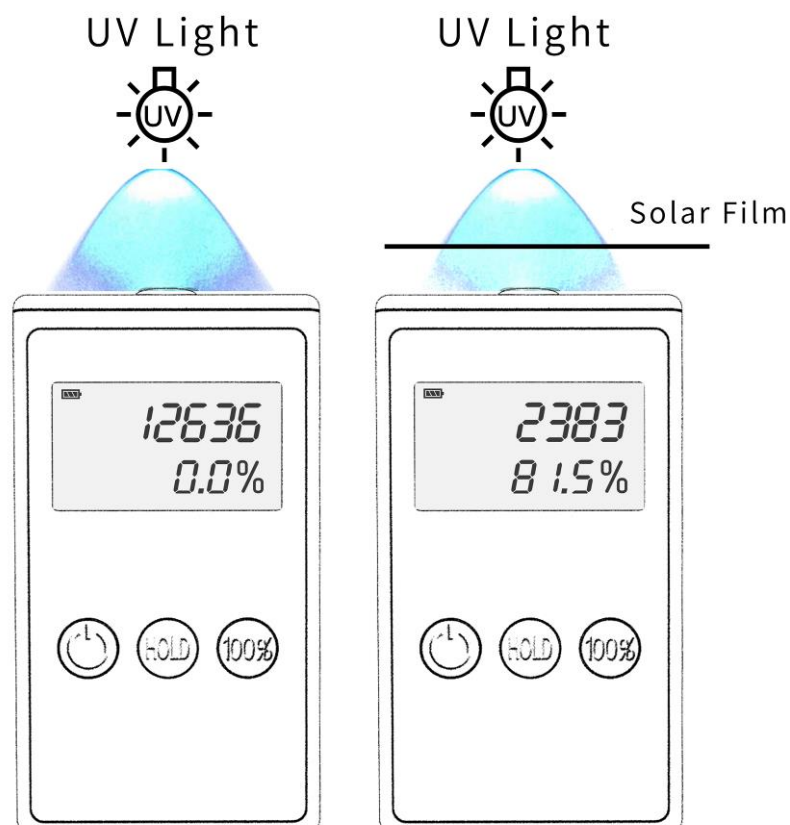
IV. Operating Instructions

1. Measuring the irradiance of UV light sources (the sun, UV lamp, etc.)

To measure the irradiance of light sources, turn on the instrument and put the detector against the light source. Then the UV irradiance of the light source can be measured.

2. Measuring the UV rejection rate of solar films or insulated glass, etc.

To measure the UV rejection rate of solar films and insulated glass, etc, two steps shall be carried out:



Step1

Step2

Figure1: Measuring the UV rejection rate of solar film

Step 1: Measuring the irradiance of the UV light source

Sunlight and UV lamp can be selected as the UV light sources. First measure the irradiance of the light source, W_{UV1} . Under this condition, press “0%” button and set the UV rejection rate as 0%.

Step 2: Measuring the irradiance through the solar film or insulated glass

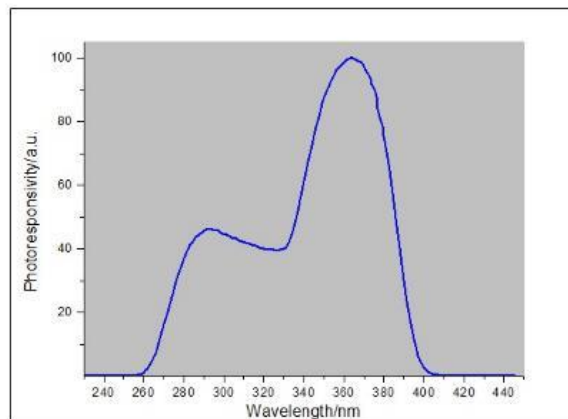
Maintain the distance between the UV light source and the instrument, and put the solar film or insulating glass between the instrument and the UV light source. Irradiance of the UV light source through solar film or insulated glass is W_{UV2} , and the UV rejection value of the material will display on the LCD. In Figure 1, the UV injection rate is 81.1%.

$$UV \text{ transmittance} = \frac{W_{UV2}}{W_{UV1}} * 100\% = 2383/12636 * 100\% = 18.9\%$$

$$UV \text{ rejection rate} = 100\% - UV \text{ transmittance} = 81.1\%$$

V. Note

1. After the “0%” button is pressed, the light source and instrument should not be moved in the subsequent measurements to ensure the accuracy of UV rejection rate.
2. Please turn off the meter by pressing the power button when the instrument is not being used.
3. When the battery icon is displayed as empty and blinks, please replace the battery.
4. Avoid contact with corrosive agents and keep from high temperature and humidity environment.
5. Spectral response curve of meter.



VI. Packing list

No.	Description	Quantity	Unit
1	UV Power Meter	1	pcs
2	User Manual	1	pcs

VII. 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.