

Radiometer (TEMI-UV1)

User manual



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1. Product description

Irradiation meter/ultraviolet radiometer (TEMI-UV1) is a kind of optical radiation automatic measurement and control instrument. It is mainly used to measure the radiant power density of ultraviolet rays, that is, the radiant energy per square meter, and carries out real-time monitoring of irradiance. This instrument is suitable for irradiance measurement in the fields of chemical and polymer materials aging, flaw detection, ultraviolet light source, plant cultivation, and large-scale integrated lighting. It has the advantages of small size, easy installation, convenient and fast use, reliable measurement and so on.

1.1 Main applications

- (1) Tests for the barrier properties of ultraviolet light on architectural membranes, solar films, and insulating glass;
- (2) Radiant intensity measurements of ultraviolet sources (solar, UV lamps, etc.);
- (3) UV disinfection and curing;
- (4) Meteorology and agricultural production.

1.2 Data measurement and display

- (1) Simultaneous measurement of irradiance ;
- (2) Display real-time clock

1.3 Panel display function

- (1) using Chinese and English liquid crystal display;
- (2) Various parameters can be displayed by key operation.

2.Matters need attention

2.1 Installation and Usage Considerations

- (1) The optical detector must not be disassembled, so as not to affect the measurement accuracy or even damage the optical detector;
- (2) The optical detector (optical cable) shall be naturally bent, not pulled or squeezed, when it is used or idle;
- (3) Before using the instrument, align the flat position of the beam to the metal fiber connector on the host computer, insert it straight into the end, then tighten the fixing screw clockwise, and then start the measurement; when you need to remove the fiber cable, first fix the screw The hour hand is unscrewed, and then the fiber optic cable is pulled out. The cable must not be twisted to prevent damage to the cable and cause unnecessary losses.
- (4) Do not apply glue or other glue on the end of the cable to avoid affecting the measurement accuracy or even damage the cable;
- (5) Avoid contact with corrosive materials and keep away from hot and humid environments;
- (6) Turn off the power without using the instrument.

3. Main technical index

3.1 Measuring wavelength band and range

Main data Radiation type	Measuring range	Peak wavelength (nm)	Irradiance range(W/m ²)	Measurement accuracy(W/m ²)	Output current(mA)
A wavelength band	315~370	340	999.9	0.01	4~20
B wavelength band	290~340	313	999.9	0.01	4~20

Note: The above list is for common band and range. Users must confirm the working band and range before purchasing the instrument. Other bands can be selected according to the actual situation, for example, the peak wavelength: 313nm or 340nm.

3.2 Relative error

Visible light band indication relative error 5%;

UV band indication relative error: 10% (relative to NIM standard).

3.3 Use environment

Temperature: 20°C±20°C , Humidity:<85%RH ,The operating temperature of the photodetector can reach about 60 °C.

3.4 Power supply

AC/DC (85~265) V, AC 50/60HZ

4. Use method

Fix the photometric probe to the test position. After confirming that both the power cable and the photometric probe are connected, connect the power supply and start the measurement after the instrument is started.

5. Daily maintenance

- (1) The instrument should be stored in a clean environment with humidity <80%RH and temperature $(20\pm 20)^{\circ}\text{C}$ to avoid causing chronic damage to the instrument in harsh environments.
- (2) To ensure the long-term accuracy of the instrument, the instrument should be reviewed every year.
- (3) The instrument should be returned to the factory for repairs. Do not open or repair any parts by yourself.
- (4) Please pay attention to the users who purchase fiber-optic beam: If the improper use of the fiber-optic beam will cause permanent damage, please install it carefully and take care of it. Fiber-optic transmission beams (optical cables) should remain naturally curved whether used or left unused. Before using the instrument, align the position of the fiber optic beam to the metal interface on the host computer, insert it straight into the end, then tighten the fixing screw clockwise, and then start the measurement; when you need to remove the fiber optic cable, first turn the fixing screw counterclockwise, and then hold the cable out. Must not twist some of the cable, to prevent damage to

the cable, causing unnecessary losses. Do not apply glue or other glue on the end of the cable to avoid affecting the measurement accuracy or even damage the cable.

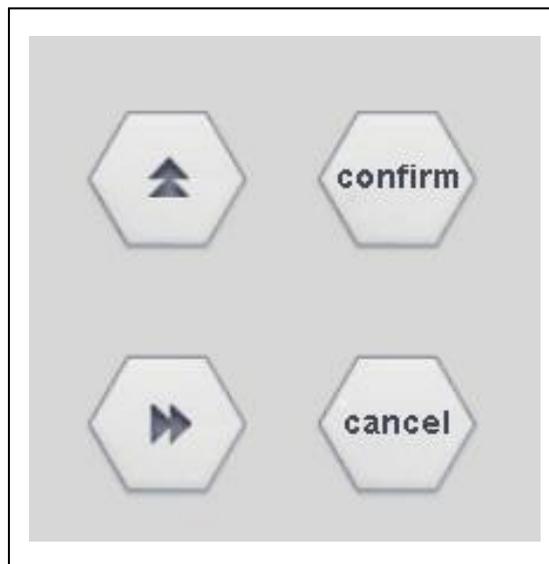
6. Operating method

6.1 Status display

Instrument LCD dot matrix displays the following:

- (1) The power density of irradiation;
- (2) Real-time clock.

6.2 Panel key instruction



Key	Function
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	Confirm the input, enter the time setting interface;
	Cancel the setting and return to the monitoring screen. When "Time" is set, it is also used as the change digit addition and subtraction setting.
	Change item and shift key, change different parameter setting position
	Change the switch between different bits of the same parameter

6. Screen display

7.1 Boot screen



- ① Display the current real-time clock, as shown in the chart at 15:32 on 17 May 2013;
- ② Display radiant energy power, unit : W/m² .

7.2 Contents display



Press  key in the main screen to enter into contents display:



7.3 Time setting



Press  Key in the above scree to enter into Time Setting screen:



Press  key to set the time, press  key to cancel the time

setting and return to monitoring scree. Through  and  to switch the setting of up and down parameters