
Solar Film Meter

Code: 86301
User Manual V5.05

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

I. Product Introduction

The solar film meter is designed to demonstrate heat-insulating property of the solar film and can be used to measure the heat rejection rate and the temperature value.

- Two 150w Philips infrared lamps.
- "Temperature" LED to display the current temperature value.
- "Heat rejection" LED to display the heat rejection rate of the measured material.
- Directly measure the heat rejection rate of the material.
- Temperature comparison test to intuitively show heat-insulating property of different materials.

Standards for the product: *JJG(苏)99-2010 Digital Thermo-hygrometers*

II. Parameters

1. Temperature measurement accuracy for a single side: $\pm 0.5^{\circ}\text{C}$
2. Heterogeneous temperature degree of two infrared lamps: 2°C
3. Temperature measuring range: $-55^{\circ}\text{C} \sim +125^{\circ}\text{C}$
4. Time for temperature test: 1 min
5. Infrared ray: the peak wavelength is 940nm
6. Measuring accuracy of heat rejection: $\pm 2\%$
7. Size of the testing glass: 200mm * 160mm
8. Gross weight: about 12 kg.
9. Dimensions: 340mm×200mm×400mm(L*W*H)
10. Supply Voltage: 220V AC
11. Operating Current: 2A
12. Operating Power Consumption: 400W

III. Operations

There are three testing statuses of the instrument: waiting for testing, being testing and end of testing

- Waiting for testing: the temperature data flashes to indicate waiting for testing. Under this status, press the button to enter into the status of being testing.
- Being testing: The heat rejection data is held, the temperature data stops flashing, and the infrared lamps are lit up. After the 1-min test ends, the infrared lamps lights off and the instrument automatically enters into the status of end of testing.

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- End of testing: The test results for heat rejection and temperature are held. Press "Reset/test" to release the data-hold and enter into the status of waiting for testing.

1. Powering on

Power the instrument on by plugging into 220V AC power source.

2. "Reset/test" button

When the "Temperature" LED flashes, the data on LED refers to the actual temperature in the current test box. When the gap in actual temperature between left and right test boxes falls within 1 degree, the test data becomes more accurate.

When the "Temperature" LED flashes and the gap in actual temperature between left and right test boxes falls within 1 degree, press the button "Reset/test" to begin the test, with both infrared lamps lit up and the temperature in left and right test boxes climbing up.

The test will end after one minute. At that time, the infrared lamps go out, and the temperature values obtained from the test are displayed respectively on the temperature LEDs in left and right test boxes and remain unchanged.

Press the button "Reset/test" again to release the data-hold. The "Temperature" LED flashes and the data in flashing is the actual temperature in the current test box.

3. The data of the heat rejection rate will be always held after the temperature test begins and can be held off by resetting. The new measurement can be undertaken only after releasing the data-hold.

IV. Temperature comparison test

Two independent infrared lamps and temperature probes are available for instrument, which enable the temperature comparison test to measure heat-insulating property of two different film mounting glasses. See the followings for test procedures:

1. Place two samples respectively into test boxes in left and right sides of instrument.
2. Press "Reset/test" to light up two infrared lamps and start the test. The temperature in left and right boxes begins to climb up.
3. The test ends after one minute. Then, the infrared lamps go out, and the temperature values obtained from the test are displayed respectively on the temperature LEDs in left and right test boxes. Such values remain unchanged and cannot be reset until the button "Reset/test" is pressed.
4. The temperature difference in left and right boxes manifests different thermal properties between two samples.

V. Heat rejection comparison test of solar film

The solar film meter can directly test the heat rejection rate of the sample. In the status of "Waiting for testing", insert the sample into the test position and the corresponding "Heat rejection "LED directly displays the heat rejection data of the sample.

VI. Precautions

1. After the test ends, the fan will automatically start for cooling and stop after four minutes.
2. As the test data remains unchanged after the test ends, it's necessary to press again the button "Reset/Test" to reset the heat rejection data and temperature data. After resetting, the temperature data will flash and the displayed data is the actual temperature in the text box.

VII. Packing list

No.	Description	Quantity	Unit
1	Solar Film Meter	1	pcs
2	User Manual	1	pcs
3	Certificate / Warranty card	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.