Solar Film Sales Kit

Model: FS3150

User Manual V2.04

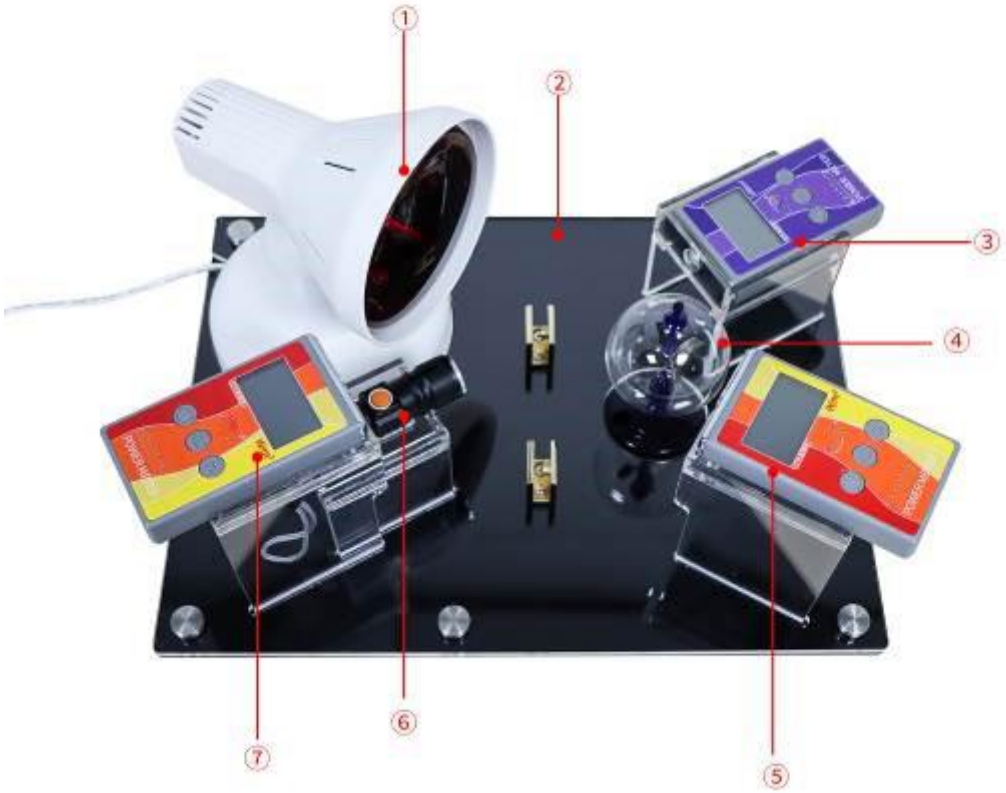
Please read this manual carefully before using and reserve it for reference.

I. Product introduction

The solar film sales kit is professionally used to display the infrared and ultraviolet rejection performance of light-transmitting materials such as window film and heat insulation glass. Using genuine Philips 150W infrared light source, the heat of the infrared lamp allows the entire display process to imitate sunlight, allowing customers to better experience the heat rejection performance of window film or heat insulation glass and understand the product performance difference.

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

①150W Philips infrared lamp (Light intensity can be adjusted)
②Plexiglass booth
③UV power meter
④ Glass radiometer
⑤IR power meter
⑥UV flashlight
⑦IR power meter



II. UV Rejection Performance Test

Two steps for UV rejection performance test of window film or heat insulation glass:

Step 1: Measure the irradiance of the ultraviolet light source

The ultraviolet light source can be sunlight or ultraviolet lamp. First, measure the UV irradiance W_{UV1} of the light source. In this case, press the "0%" button to set the rejection rate reference value to 0%.

First step Second step

Figure 1. Measure the UV rejection performance of window film

Step 2: Measure the irradiance of ultraviolet rays blocked by the window film

Keep the distance between the UV light source and the instrument unchanged and put the window film or the measured heat insulation glass between the instrument and the UV light source. When there is test material, the UV radiation irradiance is W_{UV2}, the rejection rate displayed at this time is the UV rejection rate of the test material. The UV rejection rate in Figure 1 above is 81.1%.

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

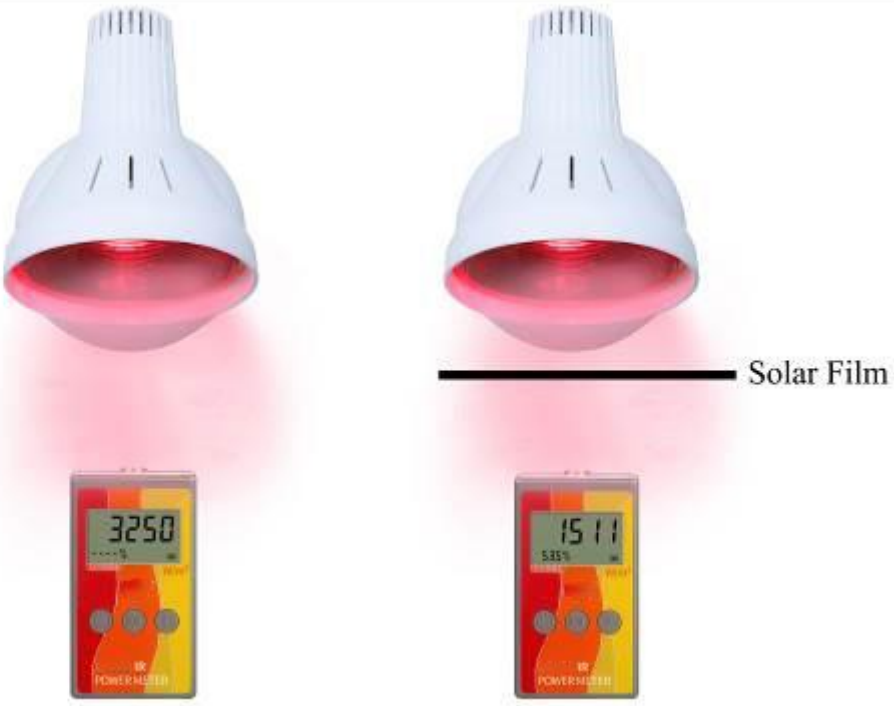
UV rejection rate = 100%-UV transmittance = 81.1%

III. Infrared Rejection Performance Test

Two steps for infrared rejection performance test of window film or heat insulation glass:

Step 1: measure the irradiance of the infrared light source

The infrared light source can be sunlight or infrared light. First measure the infrared irradiance of the light source. In this case, press the "0%" button to set the rejection rate reference value to 0%.



First step Second step

Figure 2. Measure the heat insulation performance of window film

Step 2: Measure the irradiance of infrared rays blocked by the window film

Keep the distance between the infrared light source and the instrument unchanged, put the window film or measured heat insulation glass between the instrument and the infrared light source. When there is test material, the IR radiation irradiance is W_{IR2}, the rejection rate displayed at this time is the infrared rejection of the test material. The infrared rejection rate in Figure 1 above is 53.5%

Infrared transmittance = $W_{IR2}/W_{IR1} * 100\%$ *= 1511/3250*100% = 46.5%*

Infrared rejection rate = 100%-Infrared transmittance = 53.5%

IV. Infrared Reflection Performance Test

The infrared light source irradiates on the stick-film glass and the infrared rays basically have only three directions, reflection, transmission and absorption.

The IR power meter is placed on the same side of the infrared lamp to measure the reflected infrared light intensity of the stick-film glass. For different laminated glass, the ability to reflect infrared light varies greatly.

V. UV Flashlight

The battery is rechargeable with a USB charging interface.
Dimension: Length 112mm, diameter 27mm.

VI. Glass Radiometer

1. The glass radiometer is composed of a glass bulb and a base with four blades hanging inside. It is vacuum inside the glass bulb.
2. When the light irradiates the glass radiometer, the blade will rotate and the rotation speed of the blade is proportional to the light intensity.
3. When the infrared light irradiates the glass radiometer, the blades of the glass radiometer will rotate rapidly.
4. When the window film and stick-film glass block the light, the rotation speed of the blades will drop significantly.
5. The rotation speed of the blades can demonstrate the difference in the heat insulation performance of the window film and the stick-film glass.

VII. Packing List

No.	Description	Quantity	Unit
1	Plexiglass booth	1	Set
2	150W Philips infrared lamp	1	pcs
3	UV flashlight	1	pcs
4	Aluminum case	1	pcs
5	IR power meter	2	pcs
6	UV power meter	1	pcs
7	Glass radiometer	1	pcs
8	User manual	1	pcs

VIII. Service

1. The instrument has one-year warranty (Except fragile items). If the instrument works abnormally, please send it to our company for maintenance.
2. Provide users with spare parts and lifelong maintenance services.
3. Provide the users with the gauge calibration service.
4. Free technical support for long term.

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