Automatic Octave Integrating Reflectometer SM120

Features

- Fully automatic computer control, automatic calibration, fast and accurate measurement;
- Supports fully automatic two-dimensional scanning (Mapping);
- Automatic calculation of multi-point average reflectivity;
- Ultra-long life light source;
- Reasonable structural design, simple operation and convenient maintenance;
- Ensure stable operation of the equipment without frequent calibration.

Application

Solar Photovoltaic Industry

Description

In the field of solar cell manufacturing, obtaining the reflectivity of solar silicon wafers is extremely important for production control and research, but due to the special surface of the velvet, it is very difficult to measure its reflectivity.

Optosky's new fully automatic octave-angle integral reflectometer SM120, based on ISO7724 and DIN5033 standards and combined with years of experience in spectral instrument development, is the best solution to this problem. SM120 is used in the monitoring of the cell velvet process, providing customers with an effective detection solution for cell quality control and loss reduction.

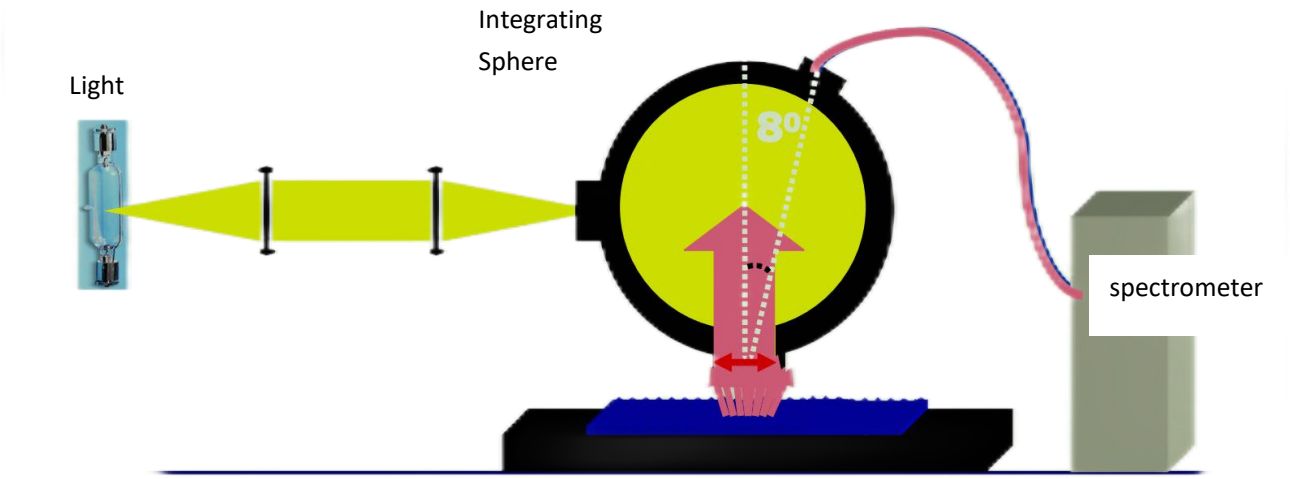
Polishing
Test the reflectivity of the polished sheet.

Acid|Alkali Texturing
Test the reflectivity after texturing.

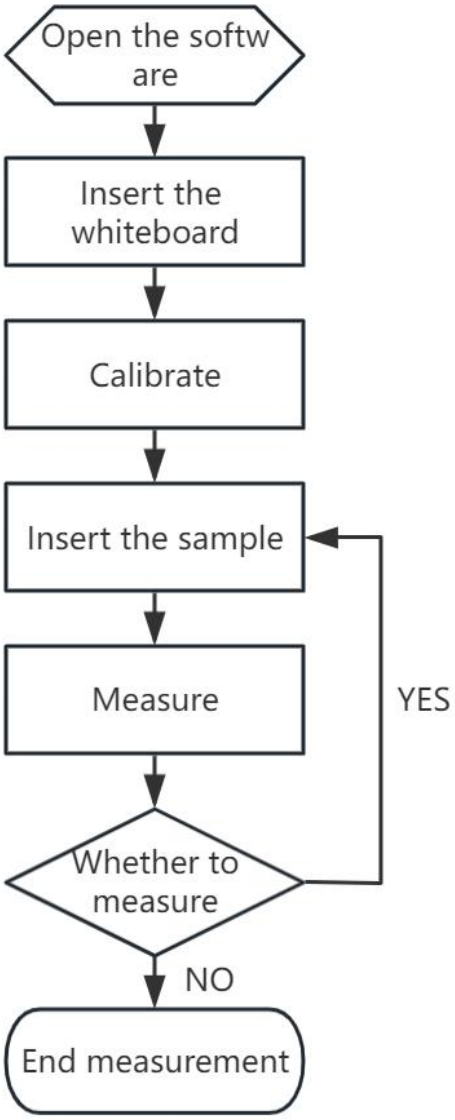
PECVD coating
Testing the effect of silicon carbide coating.

1. Principle

Automatic octave-angle integrating reflectometer - SM120 is also called fully automatic suede reflectivity meter. Its principle is to excite the battery cell through diffuse reflection, and then use a spectrometer to detect it at an angle of 8 degrees. Therefore, SM120 is also referred to as fully automatic D8 integrating reflectometer. Its principle diagram is shown in the figure below.



2. Work process



3. Parameter

Item	Specifications
Lighting conditions	D8 (integrating sphere diffuse illumination, 8° angle reception)
Wavelength range	360nm-1050nm
Reflectivity measurement range	0 ~ 100%
Single-point sampling time	2 seconds
Measurement/illumination aperture	10 mm
Measurement distance	1mm~10mm
Reflectivity accuracy	Better than 0.2%
Electronic dynamic range	65535 : 1
Test repeatability	Better than 1%
Light source power	Halogen lamp, 100W
Light source lifespan	More than 3000hours
Applicable samples	All standard cells, 182*182mm2/166*166mm2/125 * 125mm2 / 156 * 156mm2 cells, support customization
Power supply	AC 220 ~ 240V, 50/60Hz
Working temperature	0 ~ 50℃
Industrial computer	Host, display, keyboard, mouse
Measurement software	Yes
Function Accessories	Support (X-Y) dual-axis electric translation stage, the measurement position and measurement parameters can be selected from the menu, fully automatic operation
	Automatically deduct dark background
Item	Standard white board, standard gray board

4. Product picture