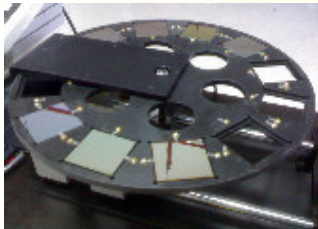


SOLAR CELL TESTING ACCESSORIES



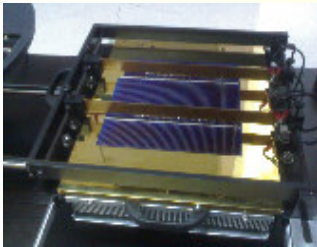
Reference Cell

It is a known fact that even the accurate testing requires a frequent and appropriate calibration of solar simulator light intensity. A secondary calibrated reference cell can enhance the good practise for daily process serving as guide if any abnormalities resulting from deteriorating components.



Spectral Filters Wheel

Researchers today are faced with challenges on new and advanced materials for PV. The difference in Spectral Response between these new materials with reference cell make research job more difficult in getting correct cell efficiency. To counter this, we provide a solution using a Spectral Filters Wheel which holds multiple filters of different wavelength for user to measure the relative Spectral Response of the developed material. With this unique feature, user can now perform more accurate testing and calculations for the mismatching factor.



Cell Chuck with Optional Thermal Table

Customised Cell Chuck with probe bar is options available for user to load and unload the test Cells easily and also to minimize the contact resistance. Additional Thermal Plate can also be integrated into the cell chuck to have the cell in different temperature which is required in Cell Temperature coefficient measurement.

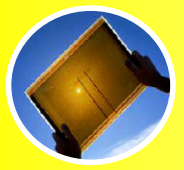


NIST Traceable Spectroradiometer

The combination of Xenon lamp and air mass 1.5G filter produces the characteristic Class A spectra. Even as Class A simulator its spectrum has a $\pm 25\%$ deviation from the specified percentages. And the spectral output of simulator is also changing through the life of the lamp. This spectroradiometer is used to analyze the spectral distribution of solar simulator. Spectral mismatch calculation can be achieved by using these data.

SPECIFICATION

Solar Cell Size	200M	156 & 125 M/S	100 x 100 mm ² to 70 x 70 mm ²
Reference Cell			
Cell Material	Monocrystalline Silicon Calibrated with certificate	Monocrystalline Silicon solar cell or Silicon Photodiode with Spectral filter	
Cell Chuck with Optional Thermal Table			
Chuck Size	220 mm x 220 mm	120 mm x 120 mm	
Top Contact probes	Two Busbar, 10 probes/bar Three busbars is optional	Connector is provided N.A.	
Bottom Contact	Copper Plate Air suction is optional	N.A.	
Temperature setting range	15°C to 65°C @ Ambient Temp 25°C	10°C to 65°C, @ Ambient 25°C	
Temp control Accuracy	±0.5°C	±0.5°C	
Temp Meas Accuracy	±1°C	±1°C	
Temp controller	PID Control with NTC Temp Sensor	PID Control with NTC Temp Sensor	
Thermal Plate Size	12 to 30VDC, 5A 220 x 220 mm	12 to 30VDC, 5A 120mm x 120mm	
Temp Coefficient of Isc, Voc, & Pm	α (mA/°C), β (V/°C) & γ (mw/°C)		
I-V Curve Correction Factor	K (ohm/°C);		
Internal Series resistance	Rs (ohm);		
Motorized Filter Wheel & Relative Spectral Response Measurement			
Filter Number	12 maximum		
Center Wavelength (nm)	405, 450, 500, 550, 600, 650, 694, 766, 800, 852, 940, 1064		
FWHM (nm)	10 nm ± 2nm		
Filter Size	50.8 x 50.8 mm Square		
Window Size	45 x 45 mm Square		
Applicable standard	ASTM - E1021-01, IEC60904-8, ASTM E973-05		
SR Measurement method	Filter method, 10nm FWHM, Relative SR		



For more information, please contact

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