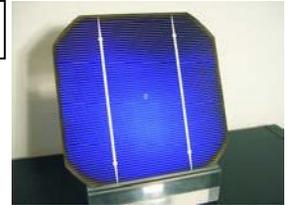# Solar Module Analyzer
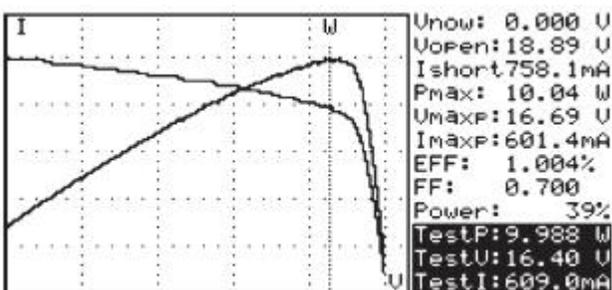## (Photovoltaic I-V Curve Tester)

Solar Cell

Solar Panels

Solar Module Analyzer is a portable analyzed used for testing, Maenance and finding efficiency of various parameters of solar panels and cells. Analyzer can be used to design Solar System to generate specific power. It can identify Solar Power System requirement, best angle of Solar Panel installation and Broken / Worn-out cells.

Features

- I-V Curve Test for Solar Panel/Module
- Max. Solar Panel Power (Pmax) search by Auto Scan: 60V, 12A (500W Capability)
- Best Resolution: 1mV, 1mA
- Manual Single Point I-V Test
- Max. Voltage (Vmaxp) at Pmax
- Max. Current (Imaxp) at Pmax
- Voltage at Open Circuit (Vopen)
- Current at Short Circuit (Ishort)
- I-V Curve with Cursor to Display each Data Point
- Efficiency (%) Calculation of Solar Panel
- Solar Panel Area Setting: 0.001 m^2 ~ 9999 m^2
- Standard Light Source Setting: 10 W/m^2 ~ 1000 W/m^2
- Communicate with PC via USB Cable
- AC Adaptor and Rechargeable Lithium Battery
- Memory Size: 100 Records
- Sampling Time of Data Logging: 0 ~ 99 min.
- Large LCD with Baclight

IV-Curve

Vnow: 0.000 V
Vopen: 18.89 V
Ishort 758.1mA
Pmax: 10.04 W
Vmaxp: 16.69 V
Imaxp: 601.4mA
EFF: 1.004%
FF: 0.700
Power: 39%
TestP: 9.988 W
TestV: 16.40 V
TestI: 609.0mA

General Specifications

Battery Type	Rechargeable Lithium Battery, 3400mAh
Battery Life	400 times of linear scan from 60V to 0V and 0A to 12A.
Data Logging Memory Size	100 records
AC Adaptor	AC 100 ~ 240V Input, DC 15V / 1 ~ 3A Output
Dimension	260 x 158 x 64mm
Weight	1425gms Including Battery (aaprox.)
Operation Environment	5^{0}C ~ 50^{0}C, 85% RH
Temperature Coefficient	0.1% of full scale / $^\circ$C(<18^{0}C or >28^{0}C)
Storage Environment	-20^{0}C ~ 60^{0}C, 75% RH
Accessories	User Manual x 1, AC Adaptor x 1, Optical USB Cable x 1, Rechargeable Lithium Battery x 1, Software CD x 1, Software Manual x 1, Kelvin Clips (12A max) x 1 Set, 4 Wire to 2 Wire Connector x 1 set, Carrying Bag x 1

Electrical Specifications (23^{0}C ± 5^{0}C, Four-Wire Measurement Maximum Power Limit is 500W)

DC Voltage Measurement

Range	Resolution	Accuracy
0 – 10V	0.001V	±1% ±(1% of Vopen ± 0.1V)
10 – 60V	0.01V	±1% ±(1% of Vopen ± 0.1V)

Solar Module Analyzer
(Photovoltaic I-V Curve Tester)

DC Current Measurement

Range	Resolution	Accuracy
0.01 – 10A	1mA	±1% ±(1% of Ishort ± 9mA)
10 – 12A	10mA	±1% ±(1% of Ishort ± 0.09A)

Ishort : Short Circuit Current of Solar Cell or Module

DC Current Simulation

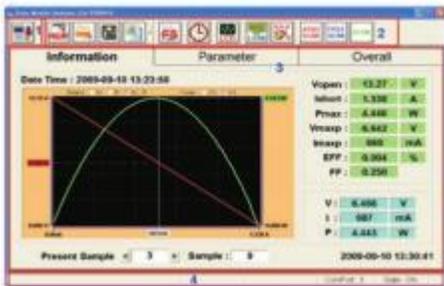| Range	Resolution	Accuracy
0.01 – 10A	1mA	±1% ±9mA
10 - 12A	10mA	±1% ±0.09A

Rear Panel Connections

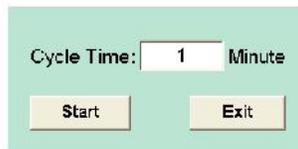Adaptor Input

PC Communication Window

User Interface & Data Acquisition Software

Solar Module Analyzer is supplied with user friendly software for Data Storing and Analysis. Users can store Data (.CSV/.TAB) that can be read in MS EXCEL and Print Waveform / Graph via Printer
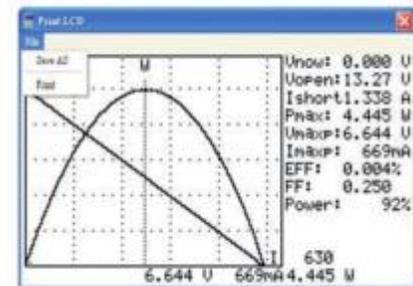
Software Window

Cycle Scan

Cycle Time: 1 Minute

Start   Exit

Print LCD

Unow: 0.000 U
Uopen: 13.27 U
Ishort 1.338 A
Pmax: 4.445 W
Umaxp: 6.644 U
Imaxp: 669mA
EFF: 0.004%
FF: 0.250
Power: 92%

6.644 U   669mA 4.445 W

Applications

- Quality Control at Production Line, Warehouse or Site of Installation
- Identify Requirements of Solar Power System
- Maintenance of Solar Panels
- Verify the Best Installation Angles of Solar Panels
- Research and Development

4 Wire Measurement

Solar Panel Connections

Product Kit