



ENGLISH

Datasheet

Stock No. 123-2205

ISM 490A

Solar Module Analyzer



FEATURES :

- I-V Curve Test for Solar Cell.
- Single Point I-V Test.
- Maximum Solar Power (Pmax) search by auto-scan: 60V, 6A (180W capability).
- Maximum Voltage (Vmaxp) at Pmax.
- Maximum Current (Imaxp) at Pmax.
- Voltage at open circuit (Vopen).
- Current at short circuit (Ishort).
- I-V curve with cursor.
- Efficiency (%) calculation of solar panel.
- Scan delay setting. (0 ~ 9999 ms)
- Solar panel area setting. (0.001 m² ~ 9999 m²)
- Standard light source setting. (10 W/m² ~ 1000 W/m²)
- Min. power setting for alarm function.
- Built-in calendar clock.
- Rechargeable lithium battery with built-in charging circuit.
- RS232C (to USB Bridge) cable for PC.
- Mains adaptor with Euro IDC lead and UK converter plug.
- Memory size: 100 records

SPECIFICATIONS :

A. Electrical Specifications

(23°C±5°C, Four-wire Measurement, Max. power limit 180W.)

DC Voltage Measurement

Range (60V / 6A)	Resolution	Accuracy
0 ~ 6 V	0.001 V	± 1 % ± (1 % of Vopen ± 9 mV)
6 ~ 10 V	0.001 V	± 1 % ± (1 % of Vopen ± 0.09 V)
10 ~ 60 V	0.01 V	± 1 % ± (1 % of Vopen ± 0.09 V)

Vopen: open circuit voltage of solar cell or module.

If crocodile clips are used to measure voltage only (I+ clip is not connected), clips

(V- and I-) must be shorted together. Thus, 4-wire measurement is converted to

2-wire measurement.

DC Current Measurement

Range (60V / 6A)	Resolution	Accuracy
0.01 ~ 0.6 A	0.1 mA	$\pm 1 \% \pm (1 \% \text{ of } I_{\text{short}} \pm 0.9 \text{ mA})$
0.6 ~ 1 A	0.1 mA	$\pm 1 \% \pm (1 \% \text{ of } I_{\text{short}} \pm 9 \text{ mA})$
1 ~ 6 A	1 mA	$\pm 1 \% \pm (1 \% \text{ of } I_{\text{short}} \pm 9 \text{ mA})$

Ishort: short circuit current of solar cell or module.

Internal resistance at Ishort: 0.05 Ohm.

Ishort is measured with internal resistance, circuit resistance, and test lead resistance.

DC Current Simulation*

Range (60V / 6A)	Resolution	Accuracy
0.01 ~ 1 A	0.1 mA	$\pm 1 \% \pm 0.9 \text{ mA}$
1 ~ 6 A	1 mA	$\pm 1 \% \pm 9 \text{ mA}$

If the current is greater than 6A, the Auto-Scan, Manual-Scan, or single point test cannot be performed.

Maximum duration of simulation is 9.999 seconds if power is less than 100 W.

Duration of simulation is 10msec if power is greater than 100 W.

B. General Specifications

Battery Type:	Rechargeable Lithium 1600mAh (11.1V) x 1
AC Adaptor:	AC 110V ~ 240V input DC 15V / 1~3A output
Data logging memory size:	100 records
Dimension:	257(L) x 155(W) x 57(H) mm
Weight:	1160g / 40.0oz (batteries included)
Operation Environment:	5 °C ~ 50 °C, 85% RH
Temperature Coefficient:	0.1% of full scale / °C (< 18 °C or > 28 °C)
Storage Environment:	-20 °C ~ 60 °C, 75% RH
Supplied Accessories:	User Manual x 1 AC adaptor x 1 RS232C (to USB Bridge) cable x 1 Rechargeable lithium battery x 1 Software CD x 1 Software manual x 1 Kelvin clips (6A max) x 1 set 4-wire to 2-wire Connector x 1 set Carrying bag x 1