

QuickSun® 120CA

Cell Solar Simulator



QuickSun 120CA is a versatile cell solar simulator for quality control and development applications. It evaluates the standard IV-characteristics during a single flash. With the Irradiance Decay Cell Analysis Method (IDCAM) option the system can measure and evaluate also the two diode equivalent circuit parameters giving unprecedented scientific information on the basic cell physics.

- Class A solar simulator according to IEC 904-9

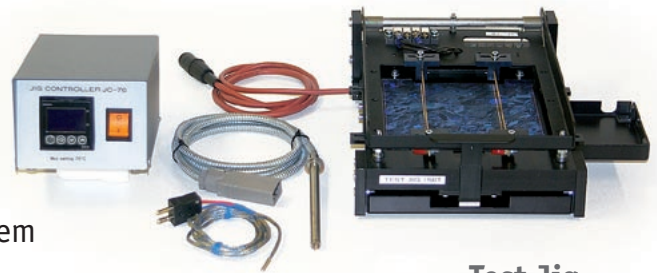
- Xenon flash tube with AM1.5G filter
- +/- 2 % irradiance uniformity
- Irradiance and temperature corrections according to IEC 891

- Proprietary electronic load and data sampling system

- Measurement reliability surpasses IEC 904-1
- Irradiance level adjustable from 200 to 1200 W/m²

- Equivalent circuit analysis with IDCAM option

- Physically meaningful ideal diode, recombination diode, shunt resistance and series resistance component values
- Identification of lateral voltage distribution



Test Jig

SPECIFICATIONS QuickSun 120CA

Flash System - Manual

- Xenon flash filtered to conform to Class A spectrum.
- Lamp life typically more than 200 000 flashes.
- 800 Ws flash head, mains 115/230 V_{ac}, 10 A.
- Irradiance uniformity better than +/- 2%.

Flash System – Production Model

- Xenon flash filtered to conform to Class A spectrum.
- Lamp life typically more than 500 000 flashes.
- 1200 flashes per hour.
- 800 Ws flash head, mains 115/230 V_{ac}, 10 A.
- Irradiance uniformity better than +/- 2%.

Electronics Unit

Load: HEXFET, sweep rate controlled by software.

Current Maximum current range options 6, 12 and 25 A. Actual scales user adjustable from 0.25 to 6 A or from 0.5 to 12 A or from 1 to 25 A with an absolute measurement accuracy better than 0.2% as calculated from the selected scale.

Voltage Maximum voltage range 4 V. Actual user selectable scales 1, 2, 3 and 4 V with an absolute measurement accuracy better than 0.2% as calculated from the selected scale.

4-wire Parallel voltage sensing terminals for excluding the losses in current carrying cables.

Bias Adjustable internal power source for biasing the module to real short circuit.

Irradiance level Adjustable from 200 to 1200 W/m² with 1 W/m² resolution.

Power Reproducibility better than +/- 0.25%. Absolute accuracy depends on the accuracy of the module used for the calibration of the system.

Monitor Cell Crystalline silicon cell calibrated against certified reference cell. Spectral response can be filtered to comply with thin film materials. Gain 25 mV @ 1000 W/m², 25°C. Temperature measured and irradiance signal corrected accordingly.

Module temperature IC sensor (LM35) or optionally IR sensor. Accuracy +/- 1°C within 10–40 °C.

Operation temperature 15–35°C.

Mains 115/230 V_{ac}, 50/60 Hz.

Computer System

PC Worldwide recognized office PC of the date with Windows XP Pro.

Printer Laser printer.

Label printer Available as an option.

Bar code scanner Available as an option.

Data storage options Selected data can be
 - exported as text file
 - written to ODBC database
 - collected with TCP interface

Conformity CE approved.

Specifications subject to change without notice.