

# QuickSun<sup>®</sup> 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. Production model with TCP-interface available on request.

- 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/m<sup>2</sup>
- Equivalent circuit analysis with IDCAM option
  - Physically meaningful ideal diode, recombination diode, shunt resistance and series resistance component values
  - Identification of lateral voltage distribution



## 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<sub>ac</sub>, 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<sub>ac</sub>, 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 current power source for biasing the module to real short circuit.
Irradiance level	Adjustable from 200 to 1200 W/m <sup>2</sup> with 1 W/m <sup>2</sup> 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 the CEC JRC Ispra certified ESTI sensor. Gain 25 mV @ 1000 W/m <sup>2</sup> , 25°C. Temperature measured and irradiance signal corrected accordingly.
Ambient temperature	IC sensor (LM35). Accuracy +/- 1°C within 10 - 40 °C.
Operation temperature	15 - 35°C.
Mains	115/230 Vac, 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	Windows™ compatible files: <ul style="list-style-type: none"> <li>- IV curve (512 points) with evaluated parameters.</li> <li>- Only evaluated parameters.</li> </ul>

**Conformity**  approved.

Specifications subject to change without notice.

### Test Jig

