SCS600-MAX Large-Area Solar Cell QE System, 250 × 250 mm, QE and LBIC Mapping

Model SCS600-MAX · waveqvanta.com/products/scs600-max-large-area-solar-cell-qe-system

Quantum efficiency, reflectance and LBIC mapping of large-format solar cells up to 250 × 250 mm.



The SCS600-MAX measures spectral response and quantum efficiency of large solar cells up to 250 × 250 mm. A xenon and tungsten dual-source configuration compliant with IEC 60904 covers the solar spectrum with high intensity stability for repeatable results, and fast QE, reflectance and LBIC mapping reveals defect distribution and minority carrier diffusion length across the cell.

Key features

- Spectral responsivity, EQE, IQE, IPCE, reflectance, transmittance, integrated Jsc and beam-induced current
- QE, reflectivity and LBIC mapping of cells up to 250 × 250 mm
- Optional dual xenon/tungsten source switching to IEC 60904, intensity instability < 0.8% over 1000 s
- Spectral range 300–1100 nm, extendable to 1700 nm
- AC and DC data acquisition modes
- Mapping at different wavelengths (e.g. 400, 650, 950 nm) probes different depths of silicon cells
- Parameter sets saved as configuration files per sample; data export as TXT, Excel or images

Specifications

Suitable Samples	Large-size solar cells
Maximum Sample Size	250 × 250 mm
Maximum Scan Area	250 × 150 mm
Spectral Range	300–1100 nm, 1700 nm optional
Light Source	150 W xenon lamp; dual xenon/tungsten source switching optional
Intensity Instability	< 0.8% over 1000 s (dual source)
Light Spot Diameter	2–15 mm
Step	5 nm
Position Accuracy	10 µm
Data Collection Mode	AC and DC
Measurement Functions	SR, EQE, IQE, IPCE, reflectance, transmittance, integrated Jsc, LBIC
Mapping Functions	QE mapping, reflectivity mapping, LBIC mapping
Standard	IEC 60904
Data Export	TXT, Excel, images

Typical applications

- Large-area silicon solar cell QE testing
- Defect and uniformity inspection by QE/LBIC mapping
- Minority carrier diffusion length analysis
- Reflectance uniformity checks of cell surfaces
- Depth-resolved inspection of silicon cells