

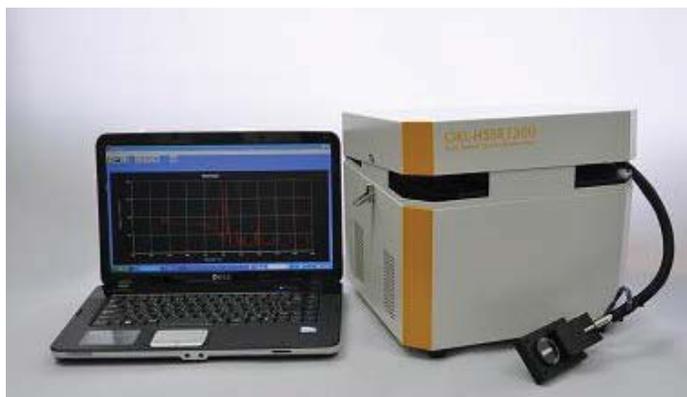
Pulse Analysis Spectro-Radiometer for Measuring Spectral Distribution of Pulsed Light

**High-Speed, High-Precision Spectro-Radiometer (“Saikoh”)
Model OKL-HSSR1300**

Ideal for proving solar simulator compliance with IEC and JIS Standards

The HSSR1300 is the ideal tool for proving solar simulator compliance with IEC and JIS Standards. Solar simulators used for evaluating the performance of various types of solar cells must comply with the requirements of IEC 60904-9 (International Standard) or JIS (Japanese Industrial Standards). Verifying compliance is also extremely important since the measured output value must also be proven to satisfy international standards.

Up until now, however, users of solar simulators have always had to accept manufacturers' compliance claims at face value. Recently, in order to shorten testing time and to save energy, pulsed solar simulators have come into wide use on production lines. The OKL-HSSR1300 was developed to provide a spectro-radiometer that can measure and evaluate the spectrum of pulsed light at both high precision and high speed.



The principle of pulsed light solar simulator emissions for production lines is to create an electrical discharge between poles on a lamp by emitting a charged electrical load to the capacitor. Consequently, there is variation in the emission timing in the approx. range of 10 to 100 μ s. Because of this, synchronization with the measurement timing could not be achieved, making accurate measurements problematic. To solve this problem, a specialized trigger circuit (patent application 2009-011478) required for high-speed synchronous measurements was developed and implemented through joint research by ORC, AIST, Nisshinbo, Yamashita Denso, and OK Labs.



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Device Specifications

Spectral System	
Measurement Item	Spectral radiation luminescence measurement (unit: $\mu\text{W}\cdot\text{cm}^2\cdot\text{nm}$) Spectral agreement and A, B, and C judgments according to the following standards: IEC60904-9/JIS C8912 (crystals), JIS C8933 (a-Si), JIS C8942 (multi-junction)
Measurement wavelength range	From 350nm to 1300nm
Repeatability	$\pm 1\%$ max. From 400nm to 1100nm
Wavelength resolution	350nm to 1300nm: 4nm
Wavelength accuracy	$\pm 1\text{nm}$
Detector	Linear image sensor Si: 350nm to 950nm; InGaAs: 950nm to 1300nm
Incident optical system	Quartz fiber: 3m (with reflecting diffuser plate PTFE ϕ 31mm)
Exposure time	1 to 100ms
Data interval	1nm
External trigger	Open collector
Integration frequency	100 max.
Delay Time	0 to 5 sec.

Data Processing	
PC	Laptop PC OS Microsoft Windows XP
Interface	USB
Data output format	Text (CSV) data from 350 to 1300nm at 1-nm intervals

Measuring Software	
Spectroscopic Radiation Luminescence Monitor	Repeat spectroscopic radiation luminescence displayed on screen
Measurement of Standard lamp	Reference data is obtained by measuring a standard lamp
Measurement of sample pulsed light	Samples are measured using normal measurement or trigger measurement mode

Size and power supply	340 x 300 x 280mm (W x D x H); weight: 15kg; 100VAC; 2A
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Purchasing a standard lamp calibration system together with this device is recommended.

Note: Due to upgrades, the device specifications and appearance may change without notice.