

S-2440 model II

HIDAMARI mini

Standard Equipment

- Main Body
- Trigger Cable (L=0.9m)
- USB Cable (L=2.0m)
- Inspection Sheet
- Reflecting Diffuser with Optical Fiber (L=0.9m)
- Software for Spectral Irradiance Measurement
- Dedicated AC Adapter (LTE24E-S2-3)

Main Specifications

Model	S-2440model II / HIDAMARI mini
Wavelength	300~1100nm
Slit Wavelength Width	4nm
Exposure Time	1~1,000msec
Incidence Optics	Reflecting Diffuser with Optical Fiber (L=0.9) <ul style="list-style-type: none"> ▪ PTFE, ϕ 40mm ▪ Optical Fiber (Quartz, Core ϕ 0.8mm) Note) Reflecting Diffuser with Optical Fiber can not be disconnected from the Main Body
Measuring Item	Spectral Irradiance ($\mu\text{w}/\text{cm}^2/\text{nm}$), Evaluation of Spectral match Standard of Spectral match evaluation : [JIS C 8912-2011, JIS C 8933-2011, JIS C 8942-2009, IEC 60904-9 (ED-2) -2007, ASTM (Direct AM1.5, Global AM1.5) -2009]
Measuring Mode	<input type="checkbox"/> Basic measurement <input type="checkbox"/> Time Repeat measurement <input type="checkbox"/> Event Trigger mode <input type="checkbox"/> Reference measurement
Operation System	Windows 10 / 8 / 7 / Vista (32bit, 64bit) (PC is not included)
A/D converter	ADC 16 bit
Interface	USB 2.0
Data Format	CSV Text (1nm data step)
Data Save	Up to 1,000 Spectra
Temperature and Humidity	10~35°C, Relative Humidity 80% or less / Non-condensing
Power Supply	DC12V 2A
Power Dissipation	AC100~240V 50/60Hz (Dedicated AC Adapter LTE24E-S2-3)
Size / Weight	190(H) × 210(W) × 270(D) / 5kg
Option	Standard light source unit, Reflecting Diffuser fixed unit

● The specifications and the outer shape would be changed without any notification.
 ● Color catalog and actual product may differ slightly in relation to print picture.

● For inquiries please contact

Soma SOMA OPTICS, LTD.

23-6 HIRAI, HINODE-MACHI, NISHITAMA-GUN,
 TOKYO 190-0182 JAPAN
 Phone: +81-42-597-3256 Fax: +81-42-597-3208
 E-mail : sales@somaopt.co.jp
 URL : https://somaopt.co.jp

[Sales Agent]

Cat No,14-08-2440md II E-001

Soma

Sun Spectroradiometer

S-2440model II

HIDAMARI mini

H I D A M A R I



Abstract

Sun Spectroradiometer S-2440model II has been developed to measure spectral irradiance of solar light or solar simulator which simulates solar spectrum. The spectral response of the instrument is optimized for the solar spectrum and also utilizing a detector with high sensitivity, spectrometer of high efficiency, data process circuit with high performance and software, measurement with high accuracy is realized.

Features

Newly Designed Electronics

In order to reduce the instability by temperature and noise, all the electronical circuit is newly designed. ※1 It is not only avoiding the emitted noise but also suppressing the noise from the circuit.

※1. Comparison to SOMA old model

Optimized to measure Solarsimulator

Spectral response of the instrument is adjusted to enable the accurate measurement of solarsimulator. In order to achieve this feature, noise level of the instrument in UV and NIR area is improved.



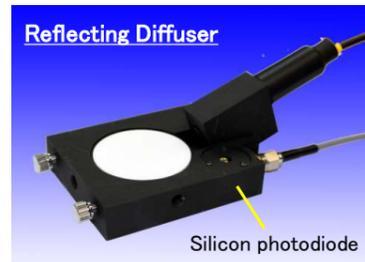
Product appearance

Synchronized measurement of pulse light source

The former instrument measures spectra only after the pulse starts. This instrument is able to measure the spectra from before the pulse starts. This function is called event trigger mode.

Event trigger mode is realized by using newly designed circuit and the software. In this mode, spectra are being measured all the time. Therefore the spectra before pulse can be retrieved and also spectra after the pulse are also available. Timing signal is generated Silicon photodiode embedded in the reflecting diffuser unit. The timing signal, light intensity level can be adjusted from 0.01 to 1 sun.

Reflecting Diffuser with high cosine characteristics is used

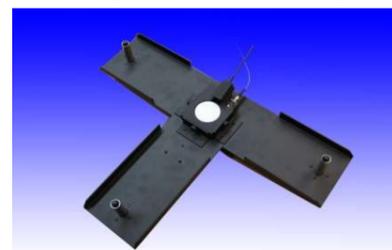


Size : H15 × W60 × D80 / φ 40mm

Highly durable and easy to keep its feature. It has high reflectance and high cosine characteristics.

Note) :
Recalibration of the instrument is necessary when the optical fiber or diffuser is changed.

Reflecting Diffuser fixed unit (option)



Usage : Reflecting Diffuser is fixed on this holder

Spectral Match evaluation for various standards

Standards for spectral match

- JIS C 8912-2011 / IEC 60904-9 (ED-2)-2007 (Solar simulators for crystalline solar cells and modules)
- JIS C 8933-2011 (Solar simulators for amorphous solar cells and modules)
- JIS C 8942-2009 (Solar simulator for multi-junction solar cells and modules)
- ASTM (Direct AM1.5, Global AM1.5)-2009

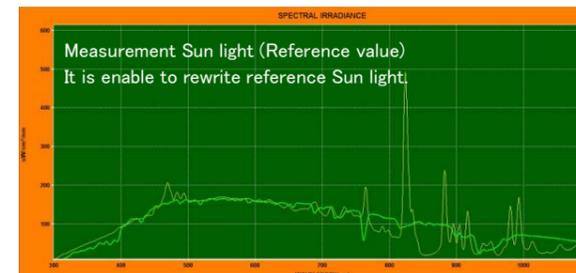
Spectral match evaluation of a solar simulator by all the standards are possible.
Spectral match (A,B,C) is calculated instantly after the measurement.

Software for the measurement of Spectral Irradiance

Measuring Item

① Spectral Irradiance ($\mu\text{W}/\text{cm}^2/\text{nm}$)

Measured results are shown by graph on the display
Text data of 1nm step are also available.



【Measurement monitor】

② Spectral Match

Any spectral data in the data list can be evaluated.
Spectral match of the selected data are instantly shown on the display.

Spectral Irradiance		Irradiance($\mu\text{W}/\text{cm}^2$)		Energy Distribution(%)		Coincidence	Class/Standard	Judgment	File
Wavelength (nm)	AM1.5G Solar Simulator	AM1.5G Solar Simulator	AM1.5G Solar Simulator	AM1.5G Solar Simulator	AM1.5G Solar Simulator				
400-500	133.21	124.40	10.26	17.2	0.93	-	A		印刷
500-600	151.28	151.10	20.1	21.0	1.04	-	A		結果保存
600-700	117.47	119.41	19.0	19.0	1.05	-	A		削除
700-800	111.40	113.07	14.8	15.0	1.07	-	A		
800-900	81.04	84.85	12.2	13.1	1.09	-	A		
900-1100	128.32	97.79	10.1	12.6	0.84	-	A		
sum			100.0	100.0					

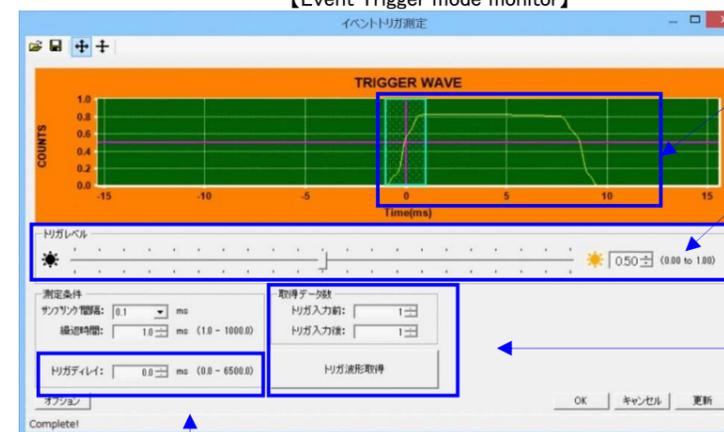
【Spectral matching monitor】

Measurement Mode

- ① Basic measurement ... Mainly it is used for continuous light.
- ② Time Repeat measurement ... You can measure repeatedly on fixed time intervals.
- ③ Event Trigger mode ... Pulse Emission is measured Spectra before and after the trigger pulse can be acquired.
- ④ Reference measurement ... It is used for calibrate the product by using spectral irradiance standard lamp.

Event Trigger mode

【Event Trigger mode monitor】



Waveform of the Trigger pulse can be observed.

Trigger level can be adjusted from 0.01 to 1sun. Adjustment is done easily by slider SW.

Number of the spectra before or after the trigger can be selected.

Delay time after the trigger can be selected.

System Map

