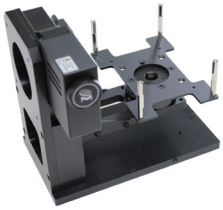
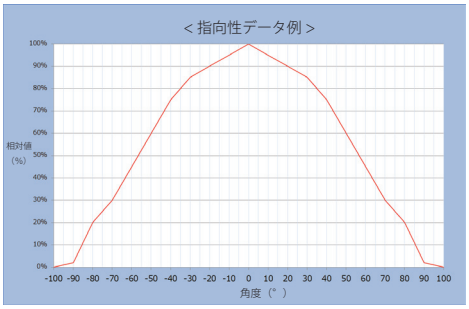
VC-250 Sensor Spectral Response Measurement System

This system measures the spectral characteristics (spectralresponse and spectral responsivity) of photoelectric conversion elements such as photo diodes and CCD/CMOS image sensors.
The intensity of light for each wavelength is monitored in real time, and our unique control mechanism can generate the monochromatic light for each wavelength with constant energy (W/cm²) or constant number of photons (photon/cm²) to be irradiated.
The system has been delivered to the National Institute of Advanced Industrial Science and Technology and the Tokyo Metropolitan Industrial Technology Research Institute and has been recognized in the world as an industry standard system.

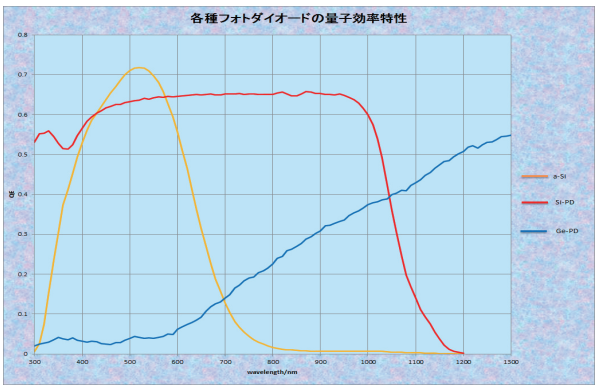
- Ideal for evaluating spectral characteristics of photo diodes and CCD / CMOS image sensors
- Variable light intensity of monochromatic light up to 3 digits
- Eliminating reference measurements with our unique light intensity real-time feedback mechanism
- Spectral characteristics (spectral response / spectral responsivity) can be easily measured simply by selecting the set energy or photon number by software
- I-V measurement can be measured at the wavelength set with an optional accessory.
- Supports external control mode. Can be operated by control command of host computer via GP-IB interface (CCD and CMOS image sensors)



Directivity measurement unit



Directivity data of various photo diode



Spectral characteristic data of various photo diodes (Quantum efficiency)

Specifications

- WL range : 300 ~1300nm (up to 1700nm as option)
- Irradiation Intensity : Constant energy : 1 ~ 50μW/cm^2
  Constant photon : 1×10^{14}photon/cm^2・sec
- Intensity control : Real time intensity feedback system
- Irradiation area : 10 x 10mm (up to 40x40mm as option)
- In plane uniformity : Within±2.5%
- WL purity : approx.10nm (variable)
- Emitted light : DC light
- Irradiation light : Vertical irradiation
- Irradiation intensity : constancy Within±2.5%
- Intensity reproducibility : Within±2.0%

Standard Configuration

1. Xenon lamp 500W
2. Halogen lamp 400W
3. 2 lamp composite optics (Dicroic Mirror)
4. Monochromator (3 grating mountable)
5. Grating 600 lines, Blazed at 300nm
6. Grating 600 lines, Blazed at 800nm
7. Grating 600 lines, Blazed at 1600nm
8. Intensity control system and optical system
9. Si photo diode (standard detector for 300-1100nm)
10. InGaAs photo diode（standard detector for 900-1300nm ）
11. Source meter for sample current measurement
12. Sealed sample compartment and sample stage
13. Note PC
14. Dedicated software
15. Instruction Manual

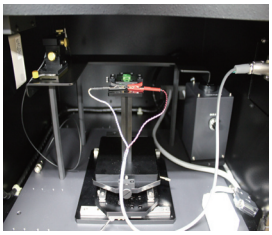
Dimensions

- Main Unit ：W1700×D700×H1460mm
- Power ：AC100V±10% 50/60Hz withing15A

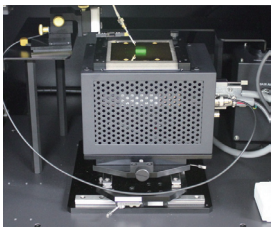
Options

- AC measurement unit (lock-in amplifier / optical chopper)
  A unit that converts the output light into AC light and detects only the AC output component
- Source meter
  Ammeter for measuring spectral sensitivity and quantum efficiency while applying bias voltage to sample
- Monochromatic light I-V measurement software
  Software for measuring current-voltage at the set wavelength
- Various sample stage
  The sample stage suitable for the customer's sample can be supplied.

Sample chamber/Sample stage



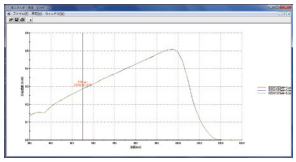
Standard detector sample stage



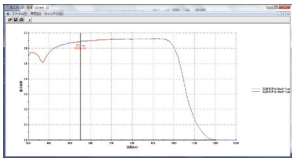
Gold plated sample stage (option)

Software

Measurement parameters



Spectral response and responsivity data for Si photo diode



Quantum efficiency data for Si photo diode

●Specifications and external appearance of the above systems are subject to change without prior notice.

< VC-250-1811046E>

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