

Spectral Absorbance And Concentration Measurement

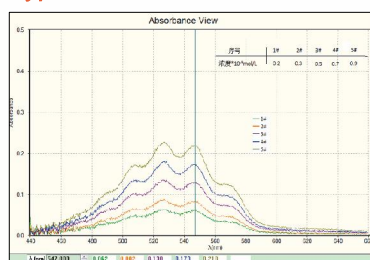
Introduction

Absorbance measures samples' capacity to absorb light at a specified wavelength. Absorbance measurement is an essential element of liquids and solids spectrum analysis. Moreover, based on the Lambert-Beer law, the absorbance spectrum can also be used for solution concentration detection. Additionally, the absorbance can also assist in quantitative material identification. There are different ways to measure absorbance. Compared to traditional experimental methods, spectrometer detection is more straightforward, efficient, and accurate. The spectrometers adopt a modular design, which can adapt flexibly to different scientific and industrial demands.

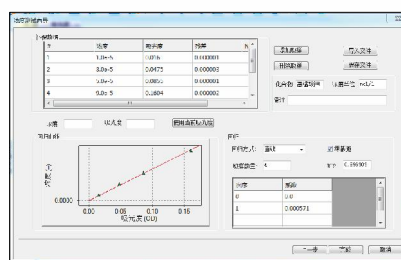
Applications

- Liquid Absorbance
- Solution Concentration

Typical Data



Absorbance of KMnO_4 solutions

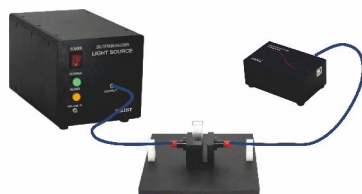


Determine the concentration of unknown KMnO_4

Spectral absorbance measurement kit for cuvette sampling

Features

- Easy operation, high repeatability, high accuracy, and fast measurement speed
- Real-time data display and saved data export
- Support data storage



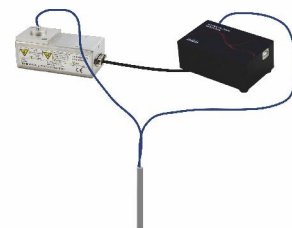
Configuration

Wavelength Range	UV-VIS	VIS-NIR
Spectrometer	YSM-8101 Miniature Spectrometer	YSM-8105 Near Infrared Spectrometer
Optical Fiber	XOP-1102 Quartz Fiber (2pcs)	XOP-1103 Quartz Fiber (2pcs)
Light Source	YLS-8301-01 Deuterium Tungsten Light Source	
Cuvette Holders	YME-2064 Cuvette Holder	
Cuvette	XOP-1202-Q Quartz Cuvette	
Software	YSW-5001 Spectrum Analysis Software	

Immersion spectral absorbance measurement kit

Features

- No sampling required, easy to operate
- 24-hour online monitoring
- Good repeatability, high accuracy and fast detection
- Real-time data reading, support data storage



Configuration

Wavelength Range	UV-VIS	VIS-NIR
Spectrometer	YSM-8101 Miniature Spectrometer	YSM-8105 Near Infrared Spectrometer
Immersion Probe	XOP-1122 Immersion Probe	XOP-1123 Immersion Probe
Light Source	YLS-8302-01 Pulsed / Flash Xenon Light Source	
Software	YSW-5001 Spectrum Analysis Software	

Spectral Reflectivity And Color Measurement

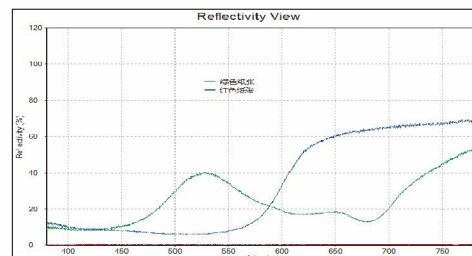
Introduction

Reflection is a fundamental optical property of an object and a basic component of spectroscopic measurements. It is essential to decide the reflection types when measuring the reflection, two main types of which are specular and diffuse reflection (although most in the real-world fall somewhere in between). Due to the 180° angle alteration, optical fibers can be used to sample the reflected light. By measuring the reflected light, the sample's reflectivity can be determined and thus can help detect the sample's reflection color and compositions.

Features

- Convenient placement without special sample holders
- Easy operation with good repeatability, fast detection
- Real-time data reading
- Data can be imported, stored, and exported
- Surface color can be determined

Typical Data

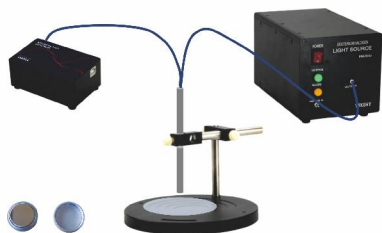


Spectral reflectivity of different color papers

Optic Fiber Spectral Reflectivity measurement kit

Applications

- Specular reflectivity of flat materials



Configuration

Wavelength Range	UV-VIS	VIS-NIR
Spectrometer	YSM-8101 Miniature Spectrometer	YSM-8105 Near Infrared Spectrometer
Optical Fiber	XOP-1104 Y-type Fiber	XOP-1105 Y-type Fiber
Light Source	YLS-8301-01 Deuterium Tungsten Light Source	
Sample Holder	YME-2063-01 Sample Holder For Reflection	
Standard	XOP-1208 Standard For Specular Reflection	
Software	YSM-5001 Spectral Analysis Software	

Integrating sphere spectral reflectance measurement kit

Applications

- Diffuse and specular reflection of flat or curved materials
- Surface color can be determined after intensity calibration



Configuration

Wavelength Range	UV-VIS	VIS-NIR
Spectrometer	YSM-8101 Miniature spectrometer	YSM-8105 Near Infrared Spectrometer
Optical Fiber	XOP-1102 Quartz Fiber (2pcs)	XOP-1103 Quartz Fiber (2pcs)
Light Source	YLS-8301-01 Deuterium Tungsten Light Source	
Integrating Sphere	XME-2203 Integrating Sphere for Reflectance	
Integrating Sphere Holder	YME-2069 Integrating Sphere Holder	
Standard	XOP-1205 Standard For Diffuse Reflection XOP-1208 Standard For Specular Reflection	
Software	YSM-5001 Spectral Analysis Software	

Spectral Transmissivity Measurement

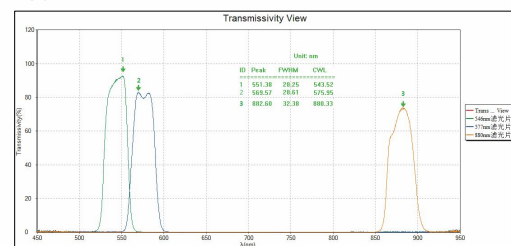
Introduction

Spectral transmissivity is the ratio of the transmitted flux to the incident flux at a particular (or small band of) wavelength, which measures the amount of light that passes through transparent materials. Different methods can be adopted to measure this optic property. Compared to traditional experimental techniques, spectrometer measurement is convenient, efficient, adaptable, and accurate. Transmissivity detection is widely adopted in medicine, chemical engineering, and glass industries.

Features

- Easy operation, good repeatability, and fast detection
- Real-time reading of transmissivity, wavelength, and FWHM
- Data can be imported and stored

Typical Data



Transmissivity of different filters

Horizontal Spectral Transmissivity Measurement Kit

Applications

- Spectral transmissivity measurement of flat and smooth surfaces, such as filters



Configuration

Wavelength Range	UV-VIS	VIS-NIR
Spectrometer	YSM-8101 Miniature Spectrometer	YSM-8105 Near Infrared Spectrometer
Optical Fiber	XOP-1102 Quartz Fiber (2pcs)	XOP-1103 Quartz Fiber (2pcs)
Light Source	YLS-8301-01 Deuterium Tungsten Light Source	
Sample Holder	YME-2062 Sample Holder For Transmittance	
Software	YSM-5001 Spectral Analysis Software	

Vertical Spectral Transmissivity Measurement Kit

Applications

- Spectral transmissivity measurement of flat and smooth surfaces, such as filters



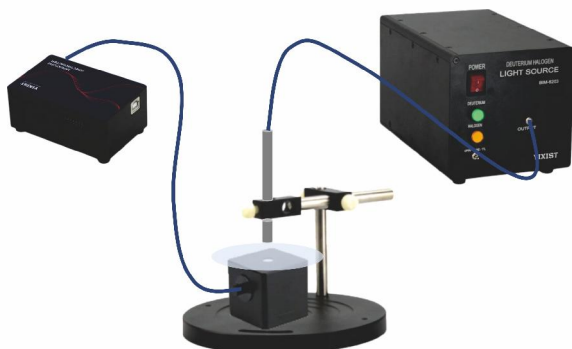
Configuration

Wavelength Range	UV-VIS	VIS-NIR
Spectrometer	YSM-8101 Miniature Spectrometer	YSM-8105 Near Infrared Spectrometer
Optical Fiber	XOP-1102 Quartz Fiber (2pcs)	XOP-1103 Quartz Fiber (2pcs)
Light Source	YLS-8301-01 Deuterium Tungsten Light Source	
Sample Holder	YME-2077 Vertical Sample Holder For Transmittance	
Software	YSM-5001 Spectral Analysis Software	

Integrating sphere spectral transmissivity measurement kit

Applications

- Convenient placement, no sample holder required.
- Support samples of irregular shapes.



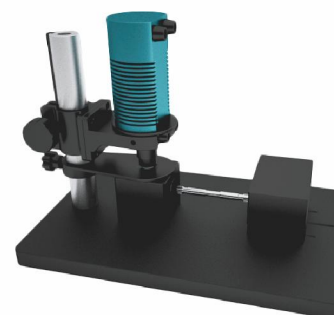
Configuration

Wavelength Range	UV-VIS	VIS-NIR
Spectrometer	YSM-8101 Miniature Spectrometer	YSM-8105 Near Infrared Spectrometer
Optical Fiber	XOP-1102 Quartz Fiber (1EA TA/SMA, 1EA SMA/SMA)	XOP-1103 Quartz Fiber (1EA TA/SMA, 1EA SMA/SMA)
Light Source	YLS-8301-01 Deuterium Tungsten Light Source	
Base	YME-2063-01 Sample Holder For Reflection	
Integrating Sphere	XME-2201 Integrating Sphere for Radiation	
Software	YSM-5001 Spectral Analysis Software	

Spectral transmissivity measuring instrument YOA-8406

Introduction

YOA-8406 series is mainly used for fast spectral transmissivity measurement of flat and curved samples. Meanwhile, it can display the transmissivity curve and FWHM in real-time. YOA-8406 series provides CMOS, CCD, and InGaAs detector versions and supports wavelength range customization within 200-1700nm. A secondary development kit enables user integration and development.



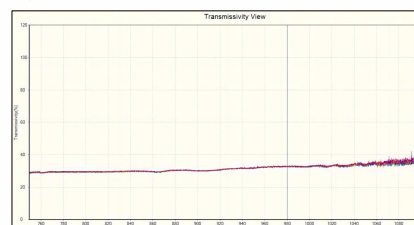
Features

- CMOS, CCD and InGaAs detector versions are available
- Support in-depth customization in the range of 200-1700nm
- Intelligent software design, easy to use
- Support system integration and secondary development

Applications

- Transmissivity of filter and optical lens
- Transmissivity of curved-edge IR apertures, coated mirrors, glued mirrors, and parallel plates

Typical Data



Transmittance of plastic

Configuration

Model	YOA-8406-01	YOA-8406-02	YOA-8406-03
Spectral Range	200-1100nm	200-1100nm	950-1700nm
Detector	2048 pixel line array CMOS	2048×64 pixel surface array CCD	256 pixels InGaAs
S/N ratio	600:1	800:1	14667:1
Resolution (Pre-configured)	~2nm	~2nm	~10nm
Wavelength Accuracy	±1nm	±1nm	±5nm
Lamp Life	2000 hours (typical)	2000 hours (typical)	2000 hours (typical)
A/D	16bit	16bit	16bit
Stability	±0.5%	±0.5%	±0.5%
Measurement Range	1%-100%	1%-100%	1%-100%
Interface	USB2.0	USB2.0	USB2.0
Power Supply	15VDC, 3A	15VDC, 3A	15VDC, 3A

Fluorescence Measurement

Introduction

Fluorescence is the electromagnetic radiation emitted by a substance absorbing light or other electromagnetic radiation. A common example is the visible fluorescence from materials that absorb ultraviolet light. Different techniques have been developed for the fluorescence measurement of materials of different states. For liquids, cuvettes are used for sampling, and the fluorescence spectrum of excitation is measured in the direction of 90° of incident light; for solids, an optic fiber holder can be used to form a 45° angle between the incident light and the resulting fluorescence and, therefore, measure the spectrum; For powder samples, a hemispherical integrating sphere with the sample positioning in the middle can be adopted —after diffuse reflections in the sphere, the fluorescence can be collected and analyzed. Fluorescence measurement is widely used in high-resolution optics, medicine, chemistry, special lighting, etc.

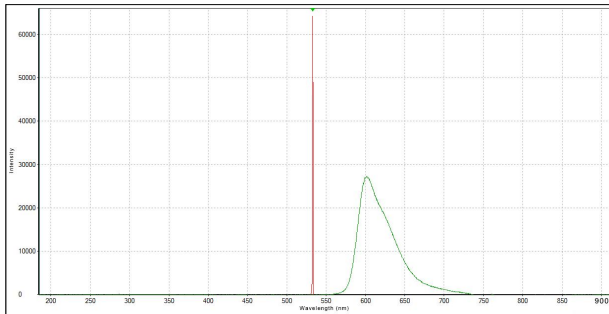
Features

- High performance LED of high stability and long service life
- Modular design, adaptable to different applications
- Compact size, easy to integrate and secondary development

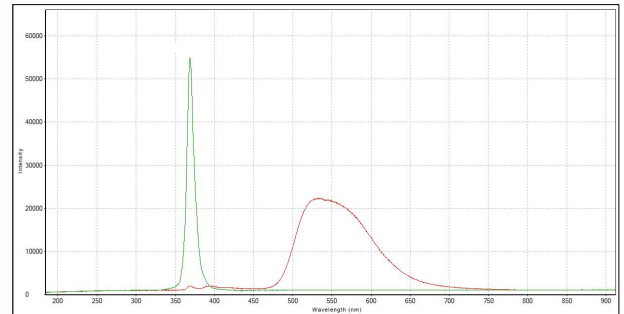
Applications

- Biochemical, medicine, gemstones, minerals, and fiber industries.
- Scientific research

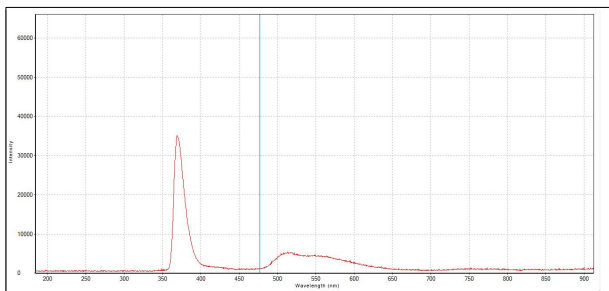
Typical Data



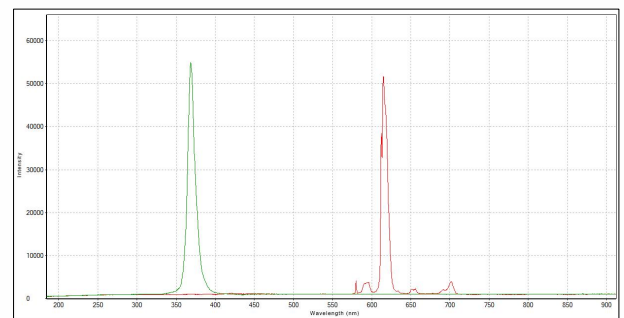
Fluorescence of Rhodamine B



Fluorescence of Ink



Fluorescence of Coumarin



Fluorescence of Ink

Fluorescence Measuring Kit for Solid Materials

Configuration

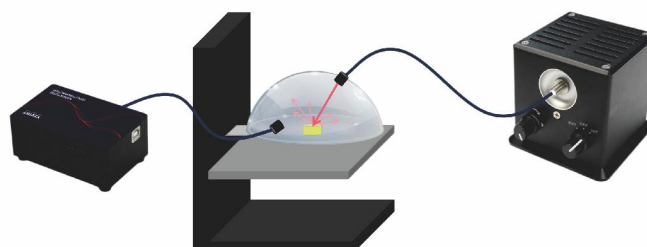
Wavelength Range	UV-VIS
Spectrometer	YSM-8101 Miniature Spectrometer
Light Source	YLS-8303-02 LED Light Source With Current Adjustable
Optical Fiber	XOP-1102 Quartz Optical Fiber (2pcs)
Fiber Holder	XME-2303 Sample Holder For Diffuse Reflectance And Fluorescence



Integrating Sphere Fluorescence Measuring Kit

Configuration

Wavelength Range	UV-VIS
Spectrometer	YSM-8101 Miniature Spectrometer
Light Source	YLS-8303-02 LED Light Source With Current Adjustable
Optical Fiber	XOP-1102 Quartz Optical Fiber (2pcs)
Integrating Sphere	Inverted Hemispherical Integrating Sphere (customized)
Sample Holder	Integrating Sphere Holder (customized)



Fluorescence Measuring Kit for Liquid Materials

Configuration

Wavelength Range	UV-VIS
Spectrometer	YSM-8101 Miniature Spectrometer
Light Source	YLS-8303-02 LED Light Source With Current Adjustable
Optical Fiber	XOP-1102 Quartz Optical Fiber (2pcs)
Cuvettes	XOP-1202-QF10 Quartz Cuvette For Fluorescence
Cuvette Holders	YME-2064-03 Four-channel Cuvette Holder



LASER & LED Measurement Kits

Introduction

Laser & LED measurement kits comprise a spectrometer, optical power meter, and integrating sphere and can measure central wavelength, FWHM, and optical power. The wavelength range is 200-1100nm, the resolution is 0.1-1nm, and the power range is 100nW-10W. Systematic calibration is performed. The kits are suitable for the measurement of light sources such as LED, LED modules, and other monochromatic light.



Features

- Wide spectral range of 200-1100nm
- Suitable for automatic pipeline testing
- SDK and in-depth customization

Software

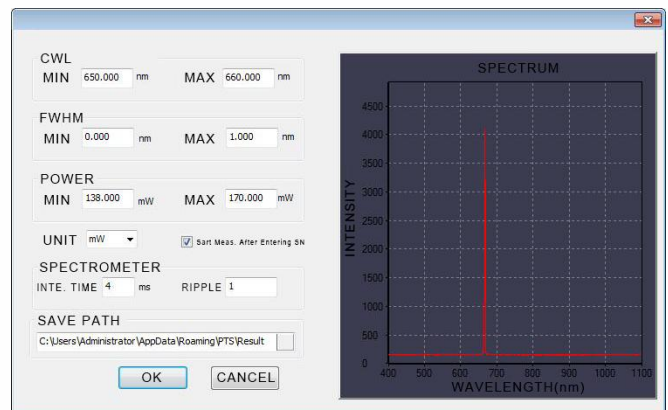
Software for fast Laser testing. Suitable for automatic pipeline testing. Set the testing parameters, enter the serial numbers, click the 'MEAS.' button, and all the testing results will show up and can be saved. The software can measure the spectrum and optical power synchronously and can automatically determine the pass/failure of the products.

SN: **MEAS.** **SET**

#	SN	PWL(nm)	CWL(nm)	FWHM(nm)	UPPER	LOWER	POWER	UNIT	P/F
1	001	659.890	659.788	0.203	50.000	150.000	139.834	mW	FAIL
2	002	659.890	659.585	0.203	150.000	180.000	143.207	mW	FAIL
3	003	659.483	659.382	0.203	140.000	180.000	141.901	mW	PA
4	004	659.890	659.788	0.203	140.000	180.000	141.137	mW	PA
5	005	659.890	659.788	0.203	140.000	170.000	140.855	mW	PA
6	006	659.890	659.788	0.203	145.000	170.000	139.750	mW	FAIL
7	007	659.890	659.788	0.203	145.000	170.000	140.826	mW	FAIL
8	008	659.280	659.178	0.203	138.000	170.000	141.076	mW	PA
9	009	659.890	659.788	0.203	138.000	170.000	140.925	mW	PA
10	010	659.483	659.382	0.203	138.000	170.000	140.845	mW	PA

Configuration

Parts	Options
Spectrometer	YSM-8101 Miniature Spectrometer
Optical Power Meters	YPM-8201 Handheld Meter YPM-8202 Photodetector
Integrating Sphere	XME-2201 Integrating Sphere for Radiation
Fiber Optics	XOP-1102 Quartz Optical Fiber
Software	Special software for laser measurement



Compact LED Optical Tester YOA-8409-01

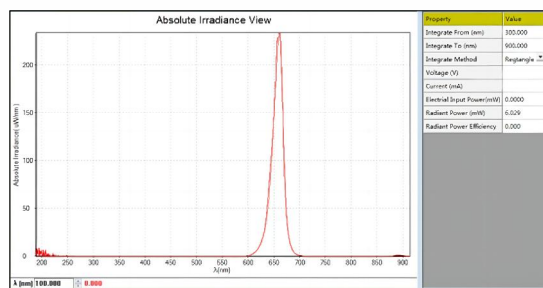
Introduction

YOA-8409-01 compact integrating sphere LED optical tester is used to measure LED color characteristics within the range of 350-1050nm. It can detect absolute intensity, dominant wavelength, color temperature, color coordinates, etc. It is calibrated with a standard tungsten light source. Multiple mounting holes are located on the side and bottom of the tester. YOA-8409-01 is compact and offers SDK, which is easy to carry and integrate. It supports USB 2.0 and RS232/RS422 and has a strong anti-interference capability. It is suitable for research and industries.

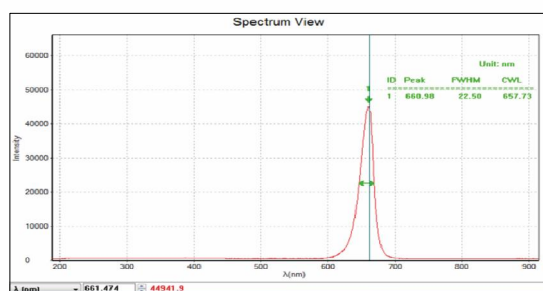
Features

- Compact and easy to integrate
- USB2.0 data transmission and power supply
- Automatic peak seeking and real-time display of peak, CWL and FWHM
- Real-time display of chromaticity parameters
- Support RS232/RS422 communication
- Support OEM integration and SDK

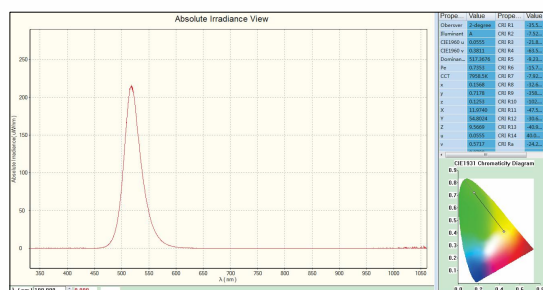
Applications



Optical power



Peak, CWL and FWHM



Chromaticity parameters



Typical Data

- Measure LED's power, photoelectric conversion efficiency, and chromaticity parameters.

Specifications

Model	YOA-8409-01
Measurable LED Size	Lamp bead diameter $\leq 9\text{mm}$
Optical Parameters	Wavelength range: 350nm - 1050nm Optical resolution: $\sim 1\text{nm}$
CWL & FWHM	Automatic peak seeking and FWHM calculation Peak and center wavelength accuracy: 0.7nm Minimum measurable FWHM: 1nm
Power	Measurable spectral power (radiation) distribution
Chromaticity	Meets CIE standards; measure color temperature, color coordinates, color purity and color rendering index Repeatability of color coordinates: ± 0.001
Dimension	180mm x 80mm x 71mm
Trigger	Software, hardware, synchronous
Power Supply	USB power supply; 5VDC, 500mA
Operating Temperature	5°C - 35°C (25°C recommended)
Communication	USB2.0, RS232/RS422
Operating System	Win XP/7/8/10/11

Dimension

