200nm~1100nm Optical Fiber Spectroscopy SR50C High Performance

Our Product Introduction

Basic Information

- Place of Origin: CHINA
- Brand Name: JINSP
- Certification: CE ISO9001
- Model Number: SR50C
- Minimum Order Quantity: 1
- Price: Negotiable
- Packaging Details: International Shipping Package
- Delivery Time: 30-50 working days
- Payment Terms: T/T, Western Union
- Supply Ability: 100 PCS/30-50 working days

Product Specification

- Wavelength Range: 200nm ~ 1100nm, Support Customizing
- Detector Chip Type: Linear Array CMOS, Hamamatsu S11639
- Weight: 220g
- Fiber Input: FC/PC Or SMA905
- PIntegration Time: 1ms-60s
- Signal-to-Noise Ratio: 650:1(4ms
- Highlight: **optical fiber spectroscopy SR50C**, **1100nm optical fiber spectroscopy**, **SR50C fiber optic spectroscopy**

More Images

Our Product Introduction

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Product Description

200nm ~ 1100nm Compact Optic Fiber Modular Spectrometer

JINSP compact and high-performing JINSP SR50C Miniature Fiber Optic Spectrometer is perfect for achieving reflection, transmission, and absorption spectra in the 200–1100nm range. It enables high-resolution spectral detection in the UV, Visible, and near-Infrared spectrum by varying the grating line density, which can be further improved with interchangeable grating slits.

Equipped with a fast, low-noise signal acquisition and processing circuit, the spectrometer ensures obtaining spectra with the highest signal-to-noise ratio (SNR). Its excellent optical design and blazed diffraction grating ensure a high luminous flux and enhance sensitivity to weak signals.

The spectrometer features an internal integrated temperature sensor capable of real-time monitoring of ambient temperature. Combined with an internal temperature drift compensation algorithm, it can achieve the minimum temperature drift within the working temperature range.

Product Parameters:

Detector	Chip Type	Linear array CMOS, Hamamatsu S11639
	Effective Pixel	2048
	Pixel Size	14μm *200μm
	Sensing Area	28.7mm *0.2mm
Optical Parameters	Numerical Aperture	0.14
	Focal Length	≤ 50mm
	Entrance Slit Width	10μm, 25μm, 50μm, 100μm, 200μm
	Resolution	See list of product models for details
	Fiber Interface	SMA905, free space
Electrical Parameters	Integration Time	1ms-60s
	Signal-to-Noise Ratio	650:1(4ms)
	Data Output Interface	Type-C
	ADC Bit Depth	16-bit
	Power Supply	DC 4.5V to 5.5V (type @5V)
	Operating Current	< 500mA
Others	Operating Temperature	10°C ~ 40°C
	Storage Temperature	-20°C ~ 60°C
	Operating Humidity	90%RH (no condensation)
	Dimensions	79mm*68mm*42mm
	Weight	220g

List of Product Models:

Model	Spectral Range (nm)	Resolution (nm)	Slit (μm)
SR50C-G01	200~1000(UV-NIR)	3.5	50
		2.4	25
		1.5	10
SR50C-G03	350~870(VIS)	2.5	50
		2.0	25
		1.2	10
SR50C-G04 SR50C-G07 SR50C-G08	200~550(UV) 350~700(VIS) 780~1050(NIR)	1.8	50
		1.3	25
		0.8	10

SR50C-G09	200~450(UV)	1.0	50
SR50C-G10	525~700(VIS)	0.6	25
		0.3	10

Typical Applications:

The device is equipped to detect and analyze various properties of light across different spectra, including the absorption, transmittance, and reflectivity of ultraviolet, visible, and near-infrared radiation. It is capable of identifying the specific wavelengths of light sources and lasers, which makes it an invaluable tool in scientific research and industrial applications.

In the realm of environmental protection, this instrument plays a crucial role in monitoring air quality and water purity. It is particularly useful for detecting the presence of smoke and assessing water quality, thereby contributing to the preservation of our natural surroundings.

Furthermore, the device is adept at performing Laser-Induced Breakdown Spectroscopy (LIBS), a technique used to analyze the elemental composition of materials. It can also capture and interpret fluorescence spectra, which are essential for studying the emission of light by substances when they absorb energy.

Additionally, the device is capable of measuring Raman spectra, a powerful method for identifying the molecular structure of various compounds through the scattering of light. These capabilities make the device a versatile and indispensable tool for a wide range of scientific and industrial applications.

Technical Characteristics:

The Wide Spectral Range feature of this device allows for the customization of the spectrum range to suit specific applications, spanning from 200 to 1000 nanometers. This flexibility ensures that it can be tailored to various scientific and industrial needs, making it a versatile tool for different fields of research and development.

The high signal-to-noise ratio is achieved through the use of a low-noise CMOS signal processing circuit. This circuitry ensures that the device delivers an outstanding signal-to-noise ratio, which is crucial for accurate and reliable measurements. The low noise levels mean that the device can capture even the faintest signals with clarity, enhancing the overall performance and precision of the measurements.

The High Luminous Flux is a result of the device's integration with a cylindrical mirror. This mirror significantly improves the luminous flux, ensuring that the device emits a strong and consistent light output. This feature is particularly beneficial in applications where high-intensity light is required, such as in spectroscopy and other optical measurements.

The Low-Temperature Drift is managed through the incorporation of an Integrated Temperature Sensor and a Temperature Drift Compensation Algorithm. These components work together to monitor and adjust for temperature variations, ensuring that the device maintains its accuracy and performance across a range of environmental conditions. This feature is essential for maintaining consistent and reliable results in sensitive applications.

Lastly, the device boasts a Small Volume, making it compact and easy to handle, while also being Lightweight. Despite its small size, it does not compromise on performance; instead, it delivers Excellent Performance, making it suitable for a wide range of applications where space and portability are important considerations.


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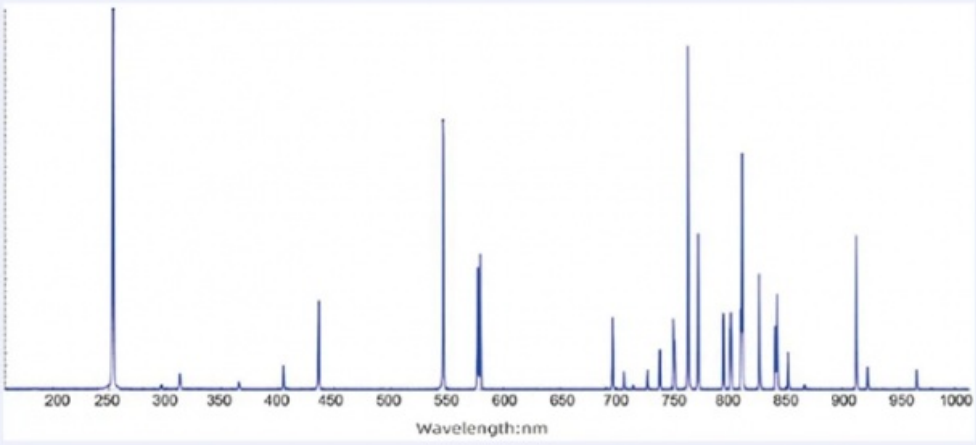
Technical Characteristics

Wide Spectral Range

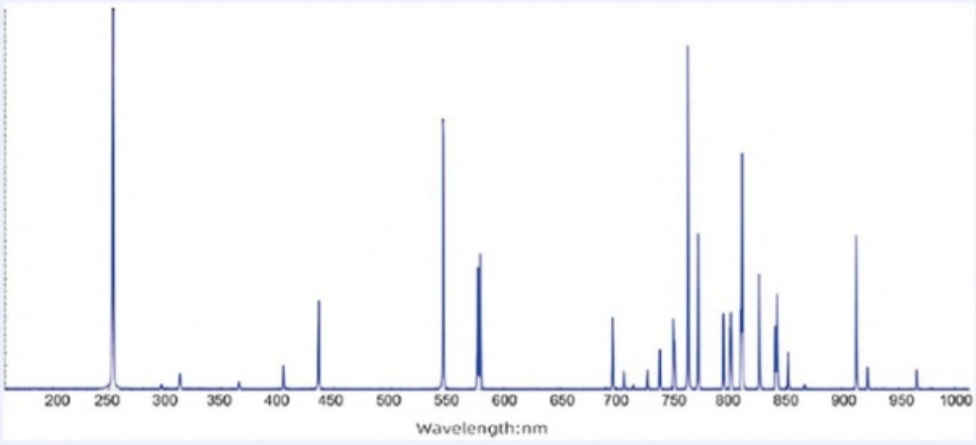
Customized spectral range supporting 200-1100nm



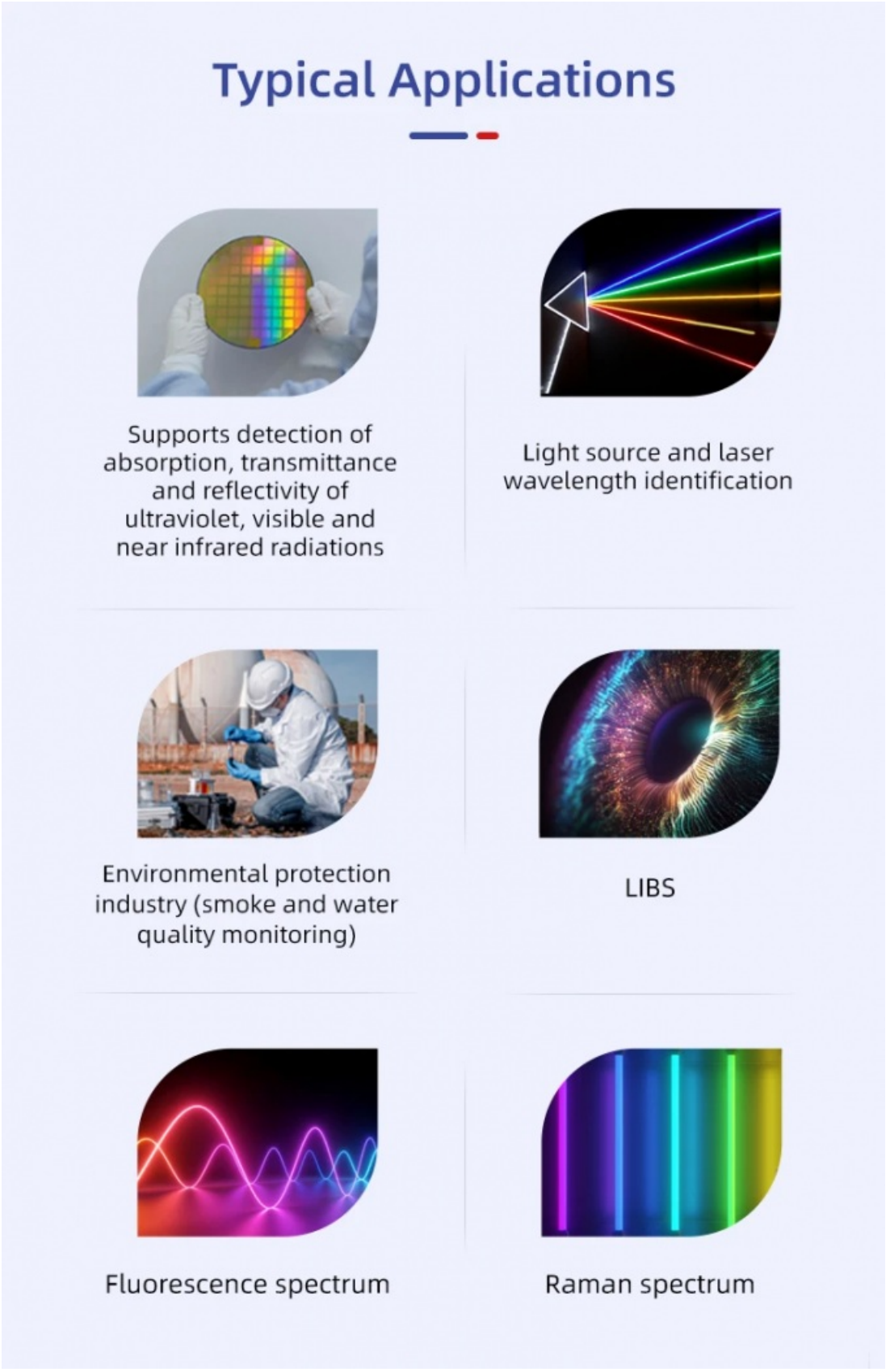
Test results and applications in the range of 200~1000nm–Mercury-Argon Lamp Spectrum

High Signal-to-Noise Ratio

Low-noise CMOS signal processing circuit, with excellent signal-to-noise ratio



Low Noise: Dark noise standard deviation is approximately 20 for 10ms

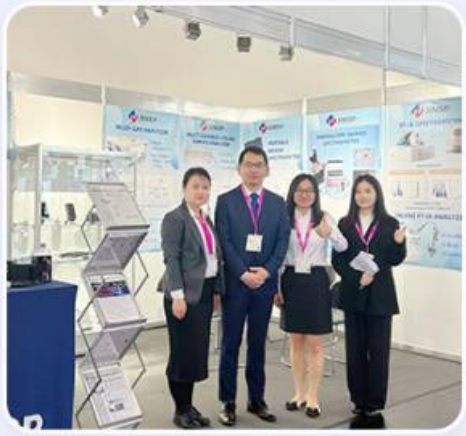


Company Introduction:

JINSP Company Limited has won the National Science and Technology Commission's Scientific and Technological Achievement Appraisal Certificate and the China Patent Excellence Award, and related products have been obtained has won authoritative awards such as the Geneva International Invention Award, the Beijing New Technology and New Product Certificate, and the "Innovation Achievement Award" of the Zhu Liangyi Analytical Instrument Innovation Award.GB/T 40219-2021 "General Specification for Raman Spectrometer".

Company Profile

Exhibition



Certifications

FAQ

Q1:How to receive a best price in the shortest time?

A1:When you send us an inquiry,please kindly offer details with wavelength,detector,effective pixels,focal length and so on.We will send you quotation with details soon to your email.

Q2:If the spectrometer has problem in my place,how could I do?,

A2:The spectrometer has one year warranty.If it breaks down,our technician will figure out what the problem maybe,according to client's feedback.We can repair for free within one year warranty.

Q3:What about quality assurance?

A3:We have a quality inspection team. All goods will go through quality inspection before shipment. We can send you pictures for inspection.

Q4:Can you offer a operation training?

4:Your technicians can come to our factory for a training. Jinsp engineers can go to your place for local support

(installation , training, debugging, maintenance).

JINSP Company Ltd.

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