# Linear Array CMOS Sensor 2048 Pixel Miniature Spectrometer Module For LIBS System Integration

Our Product Introduction

## Basic Information

- Place of Origin: CHINA
- Brand Name: JINSP
- Certification: CE
- Model Number: SR75C
- Minimum Order Quantity: 1
- Price: Negotiable
- Packaging Details: Customized Packaging
- Delivery Time: 30-50 working days
- Payment Terms: T/T, Western Union
- Supply Ability: 100 PCS/70-90 days


## Product Specification

- Wavelength Range: 200nm-1100nm
- Detector Type: Linear Array CMOS, Hamamatsu S11639
- Optical Design: Type M C-T Light Path
- Grating Slits: 10μm, 25μm, 50μm, 100μm, 200μm (customizable)
- Dimension: 110mm*95mm*43mm
- Optical Interface: FC/PC Or SMA905
- Highlight: **LIBS system integration Miniature Spectrometer Module**
**, 2048 Pixel Miniature Spectrometer Module**,
**CMOS Sensor Miniature Spectrometer Module**


## More Images


Our Product Introduction

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## Product Description

# Miniature Fiber Optic Modular Spectrometer JINSP SR75C

JINSP multi-purpose compact fiber optic spectrometer is characterized by small size, high performance, cost-effective, and versatility. It is well suited for building various common spectral measurement systems, enabling reflection, transmission, and absorption spectra in the range of 200nm to 1100 nm.

The spectrometer employs the industry's highest-quality diffraction blazed grating and excellent optical design to ensure high optical luminous flux (throughput) and improve weak signal detection capabilities. Replacing diffraction gratings with different line densities, high- resolution spectral detection can be achieved in the ultraviolet, visible, and near-infrared bands. Equipped with a 2048-pixel high quantum efficiency CMOS chip and a professional high-speed, low-noise signal acquisition and processing circuit, it delivers optimal spectral signal-to-noise ratio.

The internal integrated temperature sensor can monitor the ambient temperature in real-time. Combined with the internal temperature drift compensation algorithm, it can achieve the smallest temperature drift within the operating temperature range.


| No | Item | Description |
|---|---|---|
| 1 | Chip Type | Linear array CMOS, Hamamatsu S11639 |
| 2 | Effective Pixel | 2048 |

| | | |
|---|---|---|
| 3 | Sensing Area | 28.7mm *0.2mm |
| 4 | Optical Design | M Type C-T light path |
| 5 | Numerical Aperture | 0.085 |
| 6 | Entrance Slit Width | 10μm, 25μm, 50μm, 100μm, 200μm (customizable) |
| 7 | Dimensions | 110mm*95mm*40.5mm |
| 8 | Weight | 310g |

## List of Product Models


| Model | Spectral Range (nm) | Resolution (nm) | Slit (μm) |
|---|---|---|---|
| SR75C-G02 | 510~1000 (VIS-NIR) | 0.8 | 25 |
| | | 0.5 | 10 |
| SR75C-G04 | 200~450(UV) | 0.3-0.5 | 25 |
| SR75C-G06 | 330~570 (VIS) | 0.2-0.3 | 10 |
| SR75C-G07 | 550~750(VIS) | | |
| SR75C-G08 | 750-900(NR) | | |
| SR75C-G09 | 180~340 (UV) | 0.3 | 25 |
| SR75C-G10 | 500~600(VIS) | 0.15~0.2 | 10 |

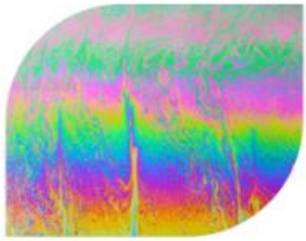
## Typical Applications

● LIBS (Laser-Induced Breakdown Spectroscopy): This advanced technology is utilized extensively in the field of geological detection and mining-related activities. It plays a crucial role in analyzing the chemical composition of soil and minerals. By employing high-energy laser pulses, LIBS can vaporize a small amount of the sample, creating a plasma that emits light. The spectral analysis of this light reveals the elemental composition of the material being tested, making it an invaluable tool for tasks such as mineral exploration, soil contamination assessment, and geological mapping.
● Water Quality and Environmental Protection: In the realm of environmental monitoring, LIBS technology is instrumental in the online detection and continuous monitoring of organic substances and dissolved oxygen levels in various water bodies. This real-time analysis is essential for assessing the health of aquatic ecosystems, ensuring compliance with environmental regulations, and facilitating timely interventions to prevent or mitigate pollution. By providing instant data on water quality parameters, LIBS helps in maintaining the balance of natural water resources and supports efforts in water conservation and protection.
● Flue Gas: The monitoring and identification of components in flue gas emissions are critical for environmental compliance and industrial safety. LIBS technology is employed to analyze the composition of gases released from industrial processes, such as combustion in power plants or waste incineration. By identifying and quantifying various components, including harmful pollutants like sulfur dioxide, nitrogen oxides, and heavy metals, LIBS enables the implementation of effective emission control strategies. This contributes to reducing the environmental impact of industrial activities and helps in achieving regulatory standards for air quality, thereby protecting public health and the environment.

# Typical Applications

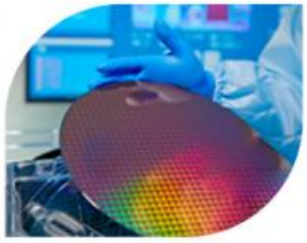
Flue Gas: Monitoring and identification of components in flue gas emissions.

Detection of absorptance, transmittance, and reflectance in ultraviolet, visible, and near-infrared spectra



LIBS: Used for analyzing soil and minerals in geological detection and mining-related work.

Water Quality and Environmental Protection: Online monitoring of organic substances and dissolved oxygen levels in environmental water.



Light source and laser wavelength identification

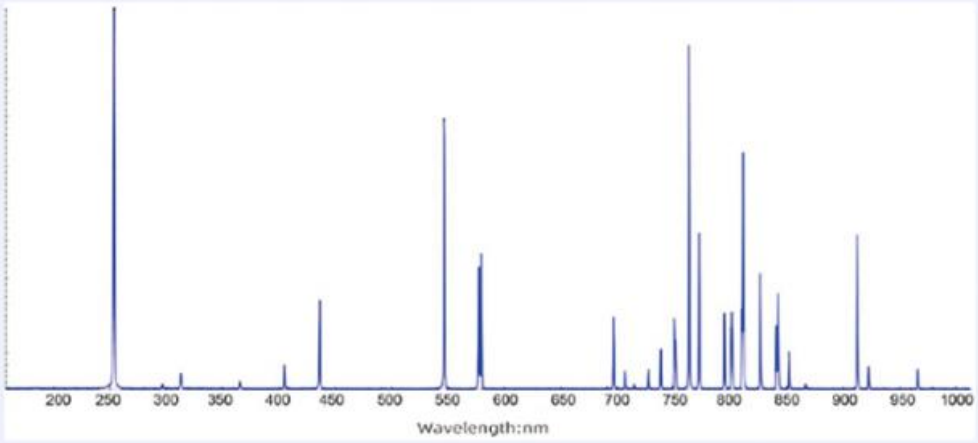
## Technical Characteristics

- **Wide Spectral Range Supports customized spectrum range of 200-1000nm**
- **High Signal-to-Noise Ratio Low-noise CMOS signal processing circuit, with excellent signal-to-noise ratio**
- **High Resolution M-shape C-T optical design**

# Technical Characteristics

## Wide Spectral Range

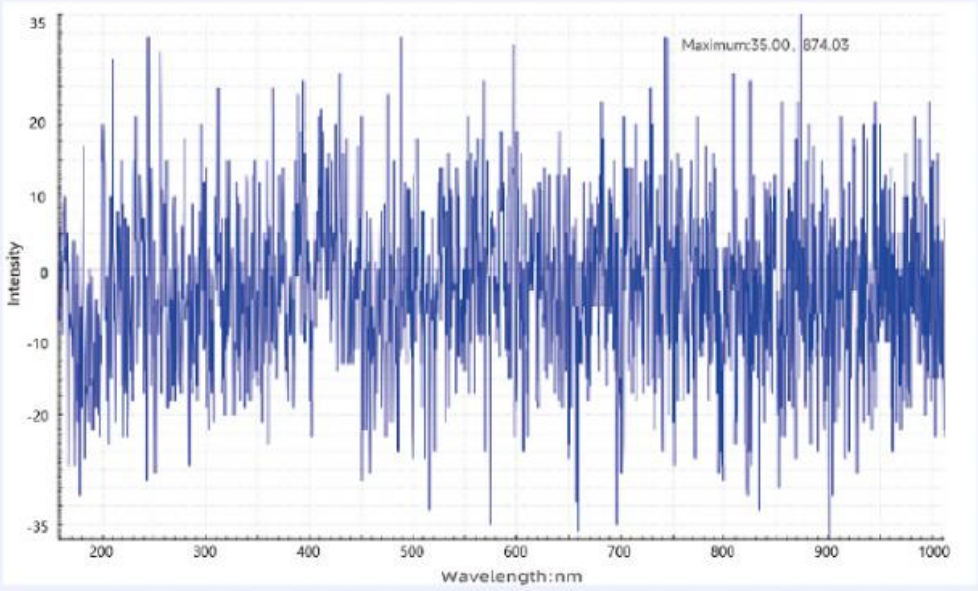
Supports customized spectrum range of 200-1000nm




Test results and applications in the range of 200~1000nm

## High Signal-to-Noise Ratio

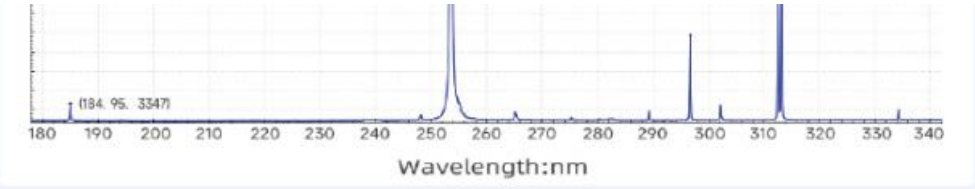
Low-noise CMOS signal processing circuit, with excellent signal-to-noise ratio




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

## High Resolution

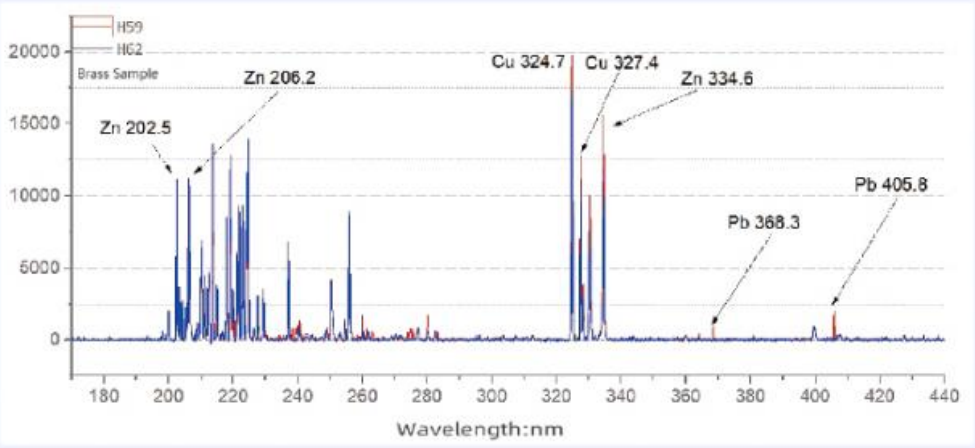
M-shape C-T optical design




Mercury-Argon Lamp Spectrum (UV 180340nm, Resolution 0.15nm)

## Flexible Application

Supports output of spectrum data via USB and serial port, to integrate the applications

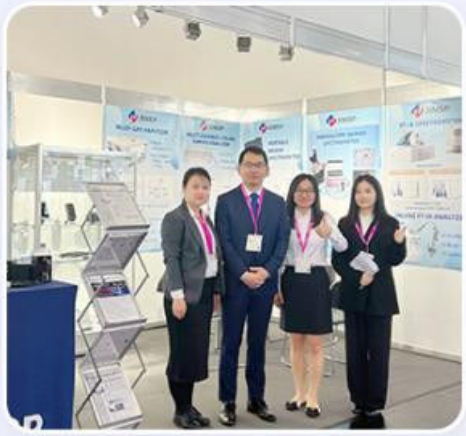



LIBS Mineral User Test Results

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: Is the price of this product negotiable?**
A1: Yes, the price of this product is negotiable.
**Q2: What are the payment terms for this product?**
A2: The payment terms for this product are T/T and Western Union.
**Q3: What is the supply ability for this product?**
A3: The supply ability for this product is 100 PCS/70-90 days.
**Q4: How long does it take to deliver this product?**
A4: The delivery time for this product is 30-50 working days.

**JINSP Company Ltd.**

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