# Accurate and Non-Destructive Film Thickness Measurement Fiber Optic Spectrometer Quantum Efficiency 83% 232nm SNR 1000 1

Our Product Introduction

## Basic Information

- Place of Origin: CHINA
- Brand Name: JINSP
- Certification: ISO9001
- Model Number: SR100Q
- Minimum Order Quantity: 1
- Price: Negotiable
- Packaging Details: International Shipping Pakcage
- Delivery Time: 90-120 working days
- Payment Terms: T/T, Western Union
- Supply Ability: 100PCS/90-120 days


## Product Specification

- Spectrual Range: 200nm - 1100nm
- Effective Pixels: 1024*122
- Qutuam Efficiency: QE92%peak@650nm, 83%@232nm
- SNR: 1000:1
- Highlight: **Non Destructive Fiber Optic Spectrometer**, **Quantum Efficiency Fiber Optic Spectrometer**, **Accurate Fiber Optic Spectrometer**


## More Images

## Product Description

# 92% High Quantum Spectrometer for Film Thickness Measurement

Thin film thickness monitoring forms the backbone of quality control in semiconductor and display manufacturing. Photoelectric instruments provide the ideal solution—combining precision with preservation of delicate layers. Through intelligent optical diagnostics, industries gain tools for continuous process refinement and breakthrough developments.

The JINSP SR100Q spectrometer is integrated with the Hamamatsu S7031, a scientific-grade TE-cooled area array CCD chip. With a pixel size of up to 24*24μm and excellent quantum efficiency of up to 92%, it ensures high response in the ultraviolet band and effectively improves the sensitivity and SNR of weak signals. Furthermore, it can realize excellent spectrum signals, and stable and reliable performance based on the advanced high-resolution light path and low-noise, high-speed FPGA signal processing chip.

**Product Parameters:**

| | | |
|---|---|---|
| Detector | Chip Type | Back-illuminated TE-cooled Hamamatsu S7031 |
| | Effective Pixel | 1024*122 |
| | Pixel Size | 24*24μm |
| | Sensing Area | 24.576*2.928mm |
| Optical Parameters | Optical Design | F/4 cross-type |
| | Numerical Aperture | 0.13 |
| | Focal Length | 100mm |
| | Entrance Slit Width | 10μm,25μm,50μm,100μm,200μm (customizable) |
| | Fiber Interface | SMA905,free space |
| Electrical Parameters | Integration Time | 8ms-3600s |
| | Data Output Interface | USB3.0,RS232,RS485,20pin connector |
| | ADC Bit Depth | 16-bit |
| | Power Supply | 5V |
| | Operating Current | <3.5A |
| Physical Parameters | Operating Temperature | 10 ~40 |
| | Storage Temperature | -20 ~60 |
| | Operating Humidity | <90%RH (no condensation) |
| | Dimensions | 180mm*120mm*50mm |
| | Weight | 1.2kg |

**List of Product Models:**

| Model | Spectral Range(nm) | Resolution(nm) | Slit(μm) |
|---|---|---|---|
| SR100Q-G21 | 200~950 | 6.8 | 200 |
| | | 2.2 | 50 |
| SR100Q-G22 | 350~1100 | 1.5 | 25 |
| | | 1.0 | 10 |
| SR100Q-G23 | 200~775 | 1.6 | 50 |
| SR100Q-G24 | 350~925 | 1.0 | 25 |
| | | 0.7 | 10 |
| SR100Q-G25 | 532~690(4400cm-1*)* | 13cm-1 | 50 |
| SR100Q-G26 | 638~800(3200cm-1)* | 10cm-1 | 25 |
| SR100Q-G27 | 785~1050(3200cm-1)* | 11cm-1 | 50 |

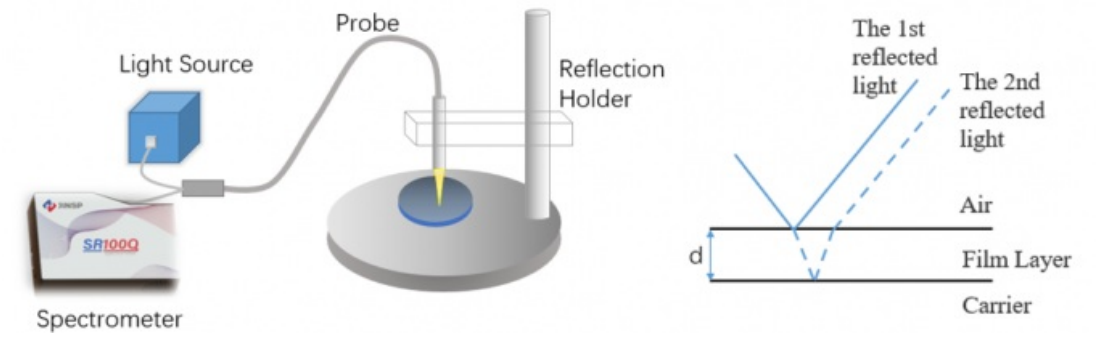
**Note: The*are primarily designed for Raman applications, with the corresponding Raman.**

**Technical Characteristics:**

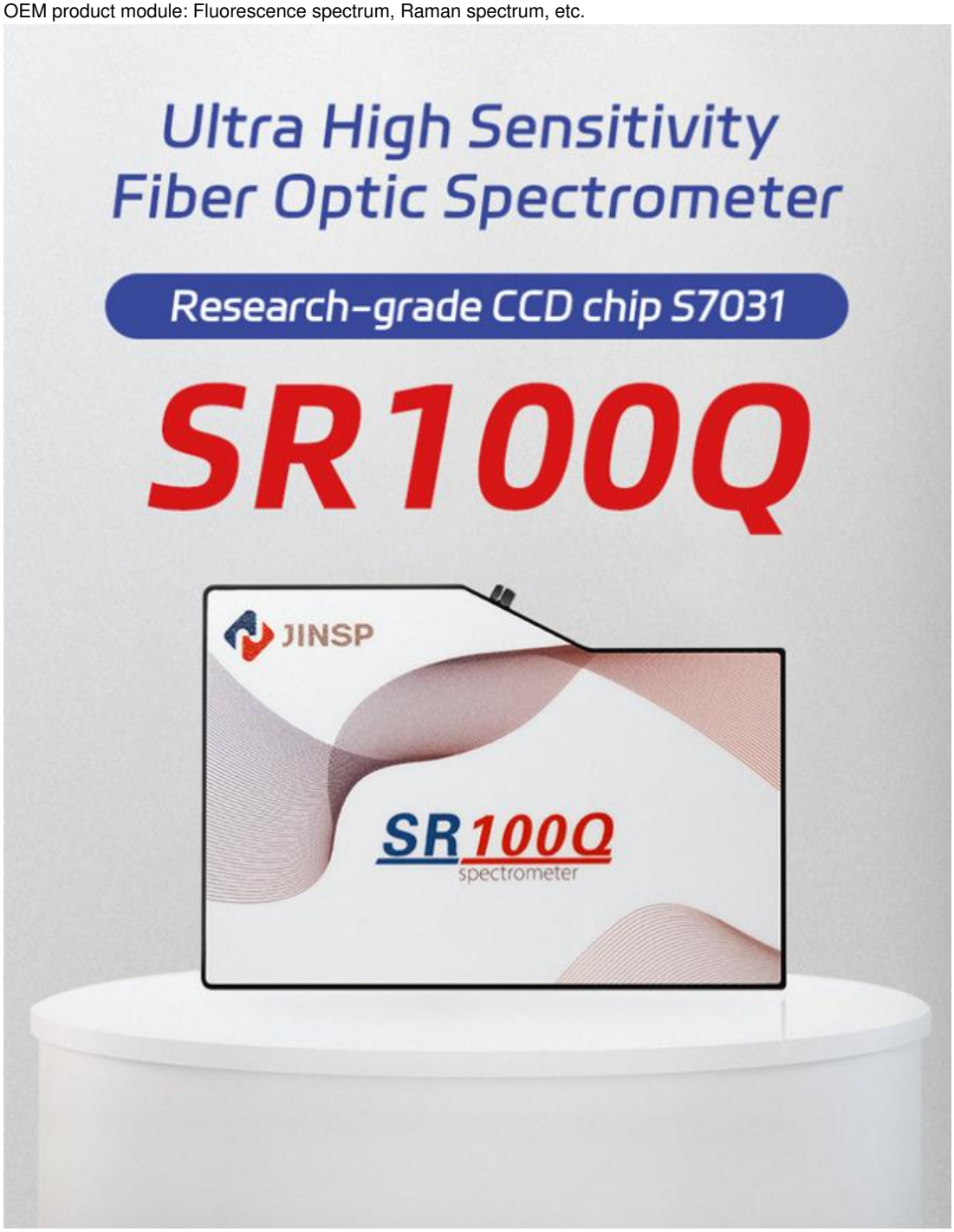
High quantum efficiency, 92%peak@650nm, 83%@232nm
High SNR: Ultra-low dark noise under long integration time, SNR is as high as 1000:1
Noise-free clear processing of weak signal in long exposure, strong adaption to environment
Low-noise and high-speed circuit: USB3.0

**Measurement Method:**

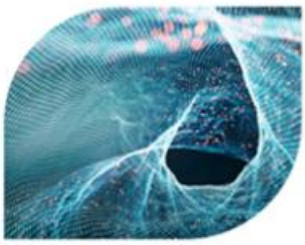
Incident light from the fiber probe reflects at the film's top and bottom surfaces, generating interfering beams. The spectrometer analyzes their interference spectrum, enabling thickness (d) calculation through the extremum method (θ, n, and peak/trough data). Higher thickness tightens fringe spacing, while longer wavelengths expand it. Precise measurements require optimized spectral settings.




**Typical Applications:**
Detect absorption, transmittance and reflection Spectrum
Light source and laser wavelength characterization
OEM product module: Fluorescence spectrum, Raman spectrum, etc.



# Technical Characteristics



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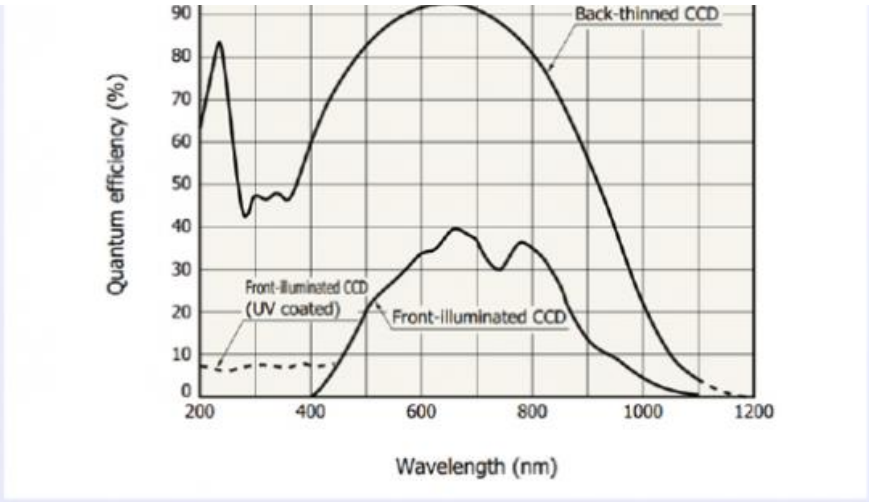
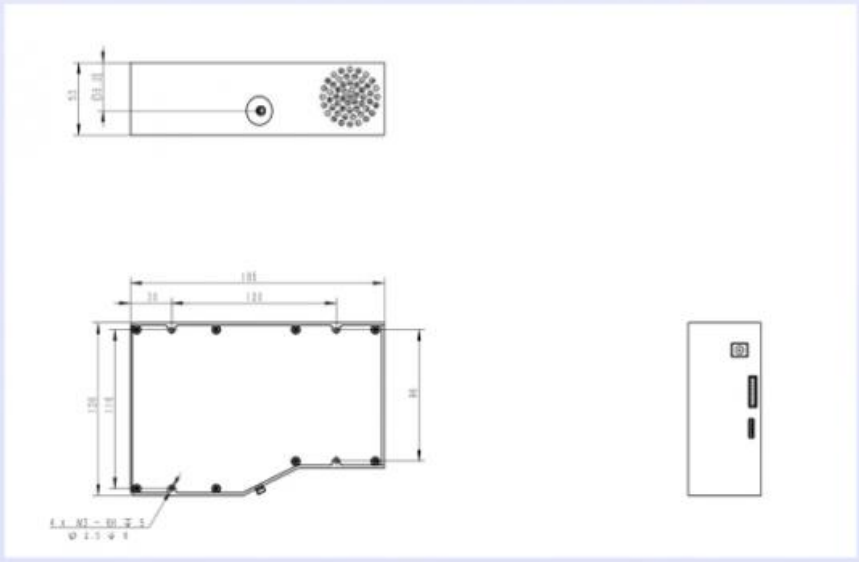



CCD Quantum Efficiency Curve



Installation dimension drawing

**Company Introduction:**

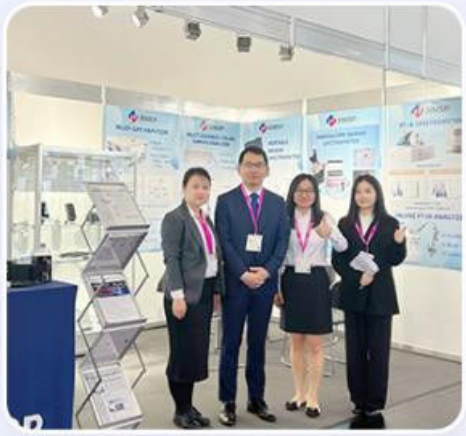
JINSP Company Limited, abbreviated as "JINSP", is a professional supplier with over 17 years of experience in spectral detection technology products, including Raman, FT-IR, LIBS technologies, etc. After 17 years of technology accumulation, the company's core key technologies have reached the international leading position at the level, and the cumulative number of patent applications exceeded 200.

In addition to its main headquarters located in the bustling city of Beijing, JINSP has established a fully owned subsidiary manufacturing facility situated in the province of Jiangsu, China.

JINSP Company received ISO9001:2015, ISO14001:2015, and ISO45001:2018 certifications. JINSP can provide required certifications, such as certification by the Ministry of Public Security or National Institute of Metrology, Environmental Level Certification, IP Level Certification, CE Certification, Transport Identification Report, EU ECAC certification, German ICT Security Testing, etc.

# Company Profile


# Exhibition






# Certifications




**FAQ**

Q1:This is the first time I use, is it easy to operate?

A1:We will send you manual and guide vedio in English,it can teach you how to operate the spectrometer. Also our technicians will offer professional tecnical opearation meetings.

Q2: Can your offer a operation traning?
A2: Your technicians can come to our factory for a training. Jinsp engineers can go to your place for local support ( installation, training, debugging, maintenance ).

Q3: What's your website?
A3:You can visit:www.jinsptech.com

Q4: What about your quality assurance?
A4: We have a quality inspection team. All goods will go through quality inspection before shipment. We can send you pictures for inspection.

**JINSP Company Ltd.**

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