



JINSP Company Ltd.
spectralanalyser.com

Accurate Film Thickness Measurement with F/4 Cross-Type Optical Design Fiber Optic Spectrometer

Our Product Introduction

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Basic Information

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



Product Specification

- Spectral Range: 200nm - 1100nm
- Effective Pixels: 1024*122
- Quantum Efficiency: QE92%peak@650nm, 83%@232nm
- SNR: 1000:1



More Images



Product Description

92% High Quantum Spectrometer for Film Thickness Measurement

Critical to semiconductors, PV panels, and display tech, thin films require meticulous thickness monitoring. Photoelectric techniques revolutionize this process through harmless, high-speed measurements. Modern systems combine optical instruments with AI algorithms to optimize film production, ensuring superior quality while accelerating industrial advancement.

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
		1.0	25
SR100Q-G24	350~925	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

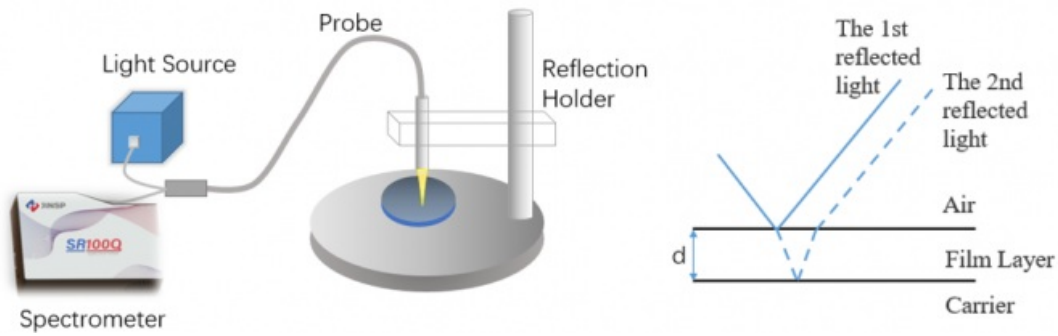
High SNR: Ultra-low dark noise under long integration time, SNR is as high as 1000:1

Noise-free clear processing of weak signal in long exposure, strong adaption to environment

Low-noise and high-speed circuit: USB3.0

Measurement Method:

When light from the optical fiber probe strikes the film, dual reflections occur: one at the air-film surface and another at the film-substrate interface. The resulting beams interfere, producing spectral fringes detected by the spectrometer. The optical path difference enables thickness (d) determination using the extremum method, with inputs including θ , n , and spectral peaks. Thicker films exhibit tighter fringe spacing, whereas longer wavelengths spread them out. Measurement accuracy depends on appropriate wavelength and resolution settings.



Typical Applications:

Detect absorption, transmittance and reflection Spectrum

Light source and laser wavelength characterization

OEM product module: Fluorescence spectrum, Raman spectrum, etc.

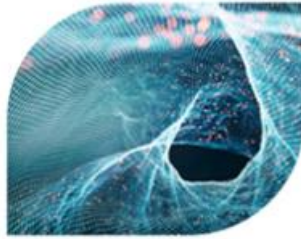
Ultra High Sensitivity Fiber Optic Spectrometer

Research-grade CCD chip S7031

SR100Q



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

Typical Applications

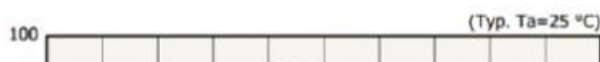
Detect absorption, transmittance and
reflection Spectrum

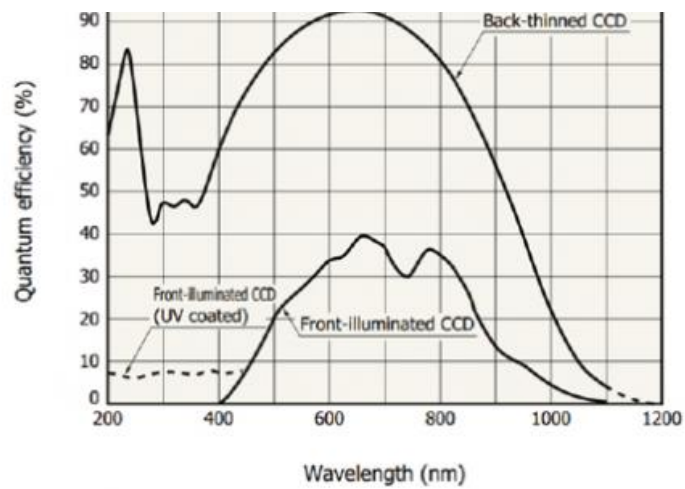


Light source and laser wavelength
characterization

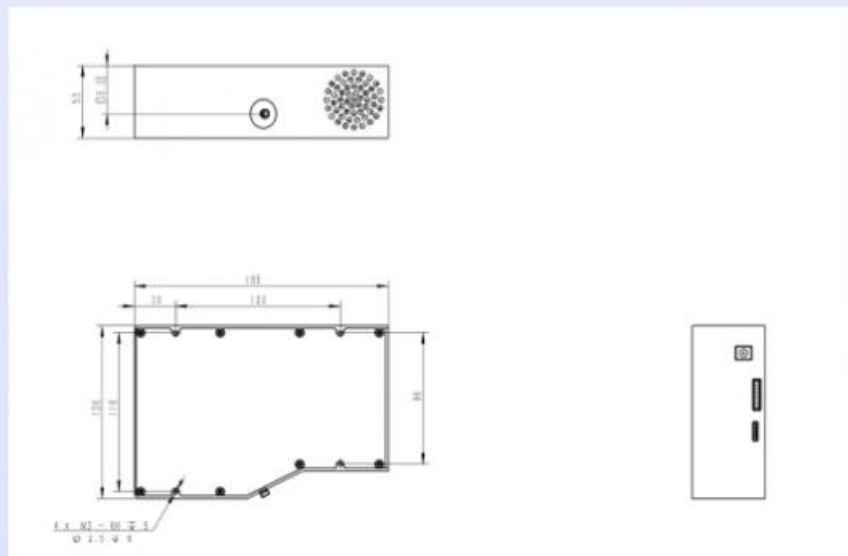


OEM product module: Fluorescence
spectrum, Raman spectrum, etc.





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 video in English, it can teach you how to operate the spectrometer. Also our technicians will offer professional technical operation meetings.

Q2: Can you offer a operation training?

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.



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