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Data Sheet
August 1, 2026

THORLABS

ThorLabs SA200-12A – 1250 – 1400 nm, Scanning Fabry-Perot Interferometer

The ThorLabs SA200-12A is a scanning Fabry-Perot interferometer designed for high-resolution spectral analysis in the 1250-1400 nm range. It features a precision scanning mechanism and high-finesse optics, making it ideal for characterizing narrow-linewidth lasers and analyzing spectral properties of light sources in telecommunications and research applications.

MODEL ThorLabs SA200-12A	CALIBRATION Available on request
CONDITION Used	STATUS In stock
RFQ / SKU SA200-12A	LISTING https://aumictechlabs.com/products/sa200-12a-2/

NIST-traceable cal · SAM registered · 30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Thorlabs SA200-12A is a scanning Fabry-Perot interferometer engineered for high-resolution spectral analysis in the 1250–1400 nm infrared band. It employs a confocal cavity with high-reflectivity mirrors and a piezoelectric transducer to vary mirror separation, functioning as a tunable narrow band-pass filter for examining fine spectral structures of continuous-wave lasers. The cavity is constructed from low thermal expansion Invar® material and housed in black anodized aluminum, ensuring thermal stability across extended measurement sessions.Technical Specifications Wavelength Range: 1250–1400 nm Free Spectral Range (FSR): 1.5 GHz Minimum Finesse: >200 Resolution: 7.5 MHz Cavity Configuration: Confocal with Invar® construction Mirror

Coatings: High-reflectivity (HR) on inner surfaces; anti-reflection (AR) on outer surfaces Maximum PZT Input Voltage: 150 V Flange Diameter: Ø 2" Total Length: 5.85" Apparent Beam Size: Approximately 4 mm Outer Housing: Black anodized aluminumKey Features Lever-actuated iris diaphragms at entrance and exit for alignment and beam control Piezoelectric transducer enables continuous wavelength scanning with sub-GHz resolution Compact kinematic-mount compatible design (Ø2" flange) Low thermal drift from Invar® cavity materialTypical Applications Spectral characterization of CW lasers in the 1250–1400 nm band Fine-structure analysis of narrowband optical sources Wavelength verification and tuning of infrared laser systemsCompatibility & Integration The SA200-12A operates with the Thorlabs SA201B controller, which supplies the scanning voltage ramp (0–20 V) and enables offset and zoom control (1X to 100X resolution magnification). Signal input accepts triangle or sawtooth waveforms at 5–50 Hz frequency with 15–40 V amplitude. Spectral data is output via SMA or BNC connector to an oscilloscope or amplifier; a 5 kΩ terminator is recommended when direct detector connection is used. Mounting in a compatible kinematic mirror mount (such as Thorlabs KM200) is recommended.

Features & description

From manufacturer datasheet

Features

• Wavelength range 1250 to 1400 nm (SA200-12A coating / detector configuration) • Free spectral range (FSR) 1.5 GHz • Minimum finesse greater than 200 (typical about 250) • Resolution 7.5 MHz (FSR / finesse) • Confocal cavity length 50 mm (FSR = c / 4d with d = 50 mm) • Low-expansion Invar cavity with thermally balanced piezo design • Maximum piezo drive input 150 V • Black anodized aluminum outer housing; approximately 2 inch flange; total length about 5.85 inches • Recommended mount: KS2 • Typically paired with SA201 controller / sawtooth scan and photodetector amplifier

SA20012A Characteristics / Specifications

PARAMETER	VALUE
Model	SA200-12A
Manufacturer	Thorlabs
Instrument Type	Scanning Fabry-Perot interferometer / optical spectrum analyzer head
Wavelength Range	1250 to 1400 nm
Free Spectral Range	1.5 GHz
Minimum Finesse	Greater than 200 (typical about 250)
Resolution	7.5 MHz
Cavity Length	50 mm (confocal)
Cavity Material	Invar (low thermal expansion)
Maximum Input Voltage (Piezo)	150 V
Outer Housing	Black anodized aluminum
Dimensions	Approximately 2 inch diameter flange; total length about 5.85 inches
Recommended Mount	KS2
Detector	InGaAs class detector for the 12xx nm SA200 variants (series documentation)
Maximum Beam Diameter	About 600 um along the cavity to obtain typical finesse (series table) Series Context SA200 models share 1.5 GHz FSR and finesse greater than 200; wavelength is set by mirror coating / detector option (for example 5A, 6A, 7A, 9A, 12A, 14A bands). SA210 models provide 10 GHz FSR with lower finesse for broader spectral windows.
Linewidth	and mode-structure analysis, longitudinal-mode spacing measurements, frequency stability observation, and high-resolution spectral diagnostics of CW sources between 1250 nm and 1400 nm (including many telecom and near-IR laser diodes and fiber lasers

Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

Specifications

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Calibration And Use
Knowing the 1.5 GHz FSR allows calibration of an oscilloscope time base between successive transmission peaks for quantitative linewidth measurements. A sawtooth drive of appropriate amplitude (controller-dependent; older notes cite roughly 0-20 V for about two FSRs in some setups, while maximum piezo rating is 150 V) sweeps the cavity through one or more free spectral ranges.

Operational Notes
Align the input beam carefully on axis and within the recommended beam diameter for best finesse. Do not exceed 150 V on the piezo. Use FC or free-space coupling appropriate to the head. Pair withacompatible controller and oscilloscope for spectrum display. Protect the detector from excessive optical power.

Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: **sales@aumictech.com** · +1 (484) 841-9341

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