



ADVANCING PLASMA MONITORING

Power • Wavelength • Bandwidth – All at Once

In plasma-based industrial processes such as semiconductor etching, photovoltaic manufacturing and plasma chamber reconditioning, precise monitoring of plasma emissions is crucial. Plasma emissions consist of numerous closely spaced spectral lines, each corresponding to specific atomic or molecular transitions. Accurate identification of emitting species ensures process integrity, optimizes performance and detects contaminants.

Traditional monitoring methods, including photodiodes with band-pass filters and compact spectrometers, often face limitations in spectral resolution, complexity, and susceptibility to crosstalk. The Coher Sense KISA sensor presents a novel solution, offering high-precision, real-time spectral analysis in a compact and user-friendly format.

Solution	Wavelength Accuracy	Intensity Measurement	Cost	Integration
Power Meter Only	None	Yes (but unfiltered)	Low	Limited scope
High-Resolution Spectrometer	High (sub-pm)	Not optimized for lasers	Expensive	Expert setup + requires fitting
Laser Wavemeter	Very high	Not optimized	Expensive	Frequent calibration
Optical Spectrum Analyzer (OSA)	Ultra high	Yes	Very expensive	Complex + bulky
KISA Sensor	High (sub-pm)	Direct + Precise	Affordable	Plug-and-play



Why Choose a KISA Sensor?

Semiconductor Engineer: "The KISA sensor gives us reliable, real-time wavelength and intensity data without complex signal processing – it integrates seamlessly into our high-vacuum RF setup and just works."

Coating Process Manager: "KISAs provide actionable plasma emission data with simple integration, helping us improve yield, detect impurities early and reduce process variability."

Parameter	Specification
Wavelength Range	400 – 700 nm*
Power Range	1 mW – 500 mW
Dynamic Range	96 dB
Free Spectral Range	10 nm or 300 nm*
Wavelength Resolution	1 pm or 0.1 nm*
Wavelength Precision	100 pm or 0.3 nm*
Signal-to-Noise Ratio	20,000:1 (16-bit)
Data Rate	~1 – 15 Hz
Size	67 x 32 x 70 mm
Weight	180 g
Interface	USB

*customizable