



Flame-NIR Spectrometer



The Power of NIR in the Palm of Your Hand

The Flame-NIR spectrometer from Ocean Insight harnesses the power of near infrared spectroscopy in a compact, affordable instrument. Flame-NIR combines the small size of its optical bench with a high performance, uncooled InGaAs array detector for spectral response within 900-1700 nm. The spectrometer is ideal for applications in food integrity, biomedical sciences and pharmaceuticals production.



At a Glance

Wavelength range: 900-1700 nm (detector)

950-1650 nm (preconfigured)

Resolution: ~10.0 nm (FWHM, 25 μ m slit)

SNR: 6000:1 (single acquisition)

Dynamic range: 6000:1 (single acquisition)

Thermal stability: 0.08 nm/ $^{\circ}$ C

(over 670 nm range)

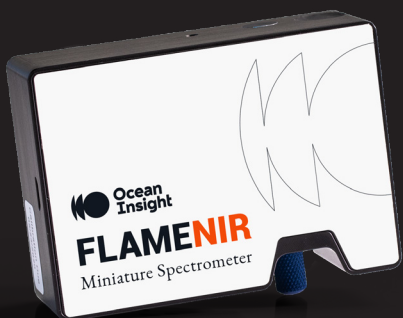
Scan rate (maximum): ~400 Hz*

Power: 5V USB

Size: 89.1 mm x 63.3 mm x 31.9 mm

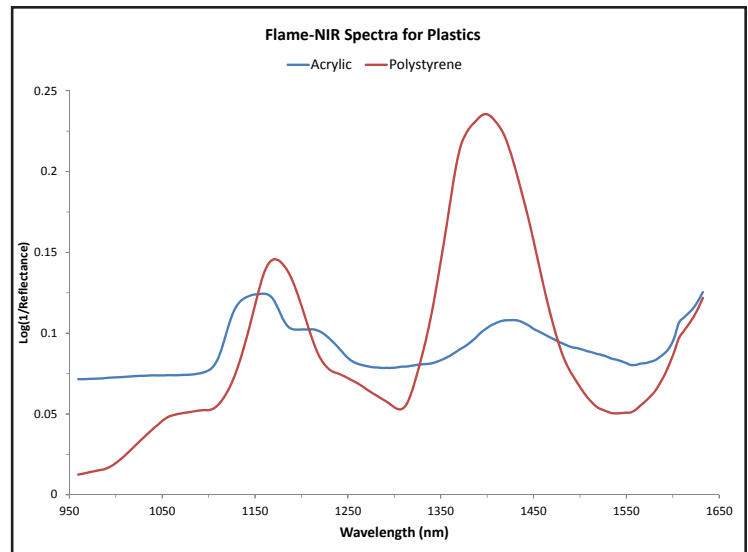
Weight: 265 g

*When used with a standard, non-real time computer OS.



Versatile, Affordable NIR for Food, Pharma and More

NIR spectroscopy is a powerful method for identifying, classifying and characterizing an extensive range of samples.



Flame-NIR detects polymers within a mixed stream of plastic materials.

Food & Agriculture	<ul style="list-style-type: none"> • Freshness and sweetness of fruits and vegetables • Fat and protein content of meat • Quality parameters of seeds and grains
Life Sciences & Pharmaceuticals	<ul style="list-style-type: none"> • Identification of pharmaceutical ingredients • Portable diagnostics for blood glucose and blood flow
Chemical & Commodity Manufacturing	<ul style="list-style-type: none"> • Chemometric modeling for QC in hydrocarbons extraction and processing • Identification of various types and colors of plastics in recycling

Flame-NIR Features and Benefits

Features	Benefits
Small yet rugged design	Its small size -- just 89.1 mm x 63.3 mm x 31.9 mm -- makes Flame-NIR ideal for integrating into portable and handheld systems. With no moving parts, the spectrometer holds up well in demanding environments.
High sensitivity	Despite a compact footprint, the Flame-NIR optical bench and InGaAs detector deliver superior sensitivity compared with other miniature NIR designs.
Low unit to unit variability	Precision alignment and assembly techniques have reduced unit to unit variance in almost every aspect, including uncalibrated sensitivity.
Low power	Drawing <250 mA at 5V, Flame-NIR can be powered almost anywhere -- including in OEM devices and in industrial process control environments.