Ocean HR Series: HR2 Spectrometer

Rapid Acquisition Speed and High Thermal Stability

The **HR2** spectrometer provides rapid acquisition speed and excellent thermal stability for applications ranging from plasma monitoring to pharmaceuticals analysis. The HR2 is compact and robust, with integration times as fast as 1 μs and minimal thermal wavelength drift, helping to ensure reliable spectral performance even as environmental conditions change. HR2 models cover various wavelength ranges within ~190-1100nm, with a choice of slit width sizes to help users manage throughput and optical resolution.
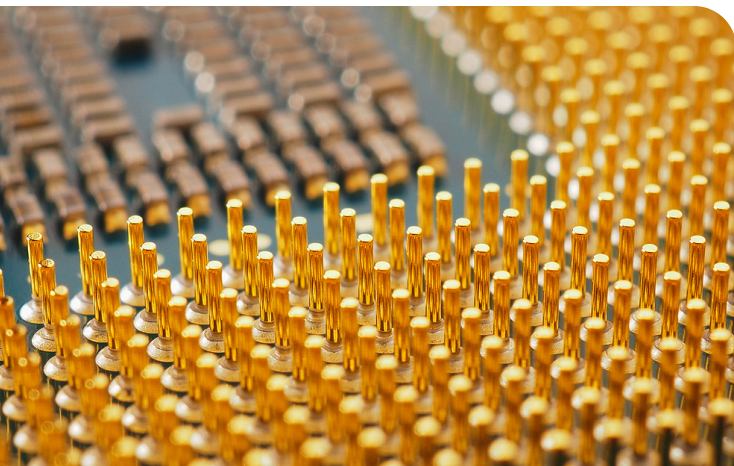
US +1 727-733-2447
EUROPE +31 26-3190500
ASIA +86 21-6295-6600

info@oceanoptics.com • **www.oceanoptics.com**

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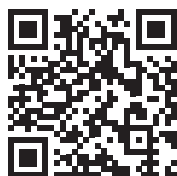
HR2 is a High Resolution Instrument

The HR2 spectrometer is compatible with Ocean Optics light sources, accessories and software, allowing users to optimize setups for different applications. Its rugged design, thermal stability and excellent absorbance linearity make the HR2 viable for lab use, embedding into OEM instrumentation, and integrating into process setups. Small-footprint HR2 spectrometers are especially useful for optical emission spectroscopy applications in semiconductor environments, where spectral stability helps to ensure precise control of wafer processes. HR2 is also a viable option for applications including blood analysis and protein concentration, where the spectrometer's absorbance linearity (2 AU) enables quantification over a broad range of protein concentrations using a single standard curve.

Software Developers Kit Adds Value

Each HR2 spectrometer comes with OceanDirect, a powerful, cross-platform Software Developers Kit with an Application Programming Interface. OceanDirect provides users with the ability to optimize spectrometer performance, access critical data for analysis, and enable High Speed Averaging Mode, a function available with newer-model Ocean Optics spectrometers that dramatically improves spectrometer signal to noise ratio performance.

At a Glance

Wavelength range: ~190-1100nm.

Optical resolution (w/25 μm slit): 0.14-1.20 nm (FWHM) (configuration-dependent)

Integration time: 1 μs-2 s

Dynamic range: 3400:1 (single scan)

Signal to Noise Ratio (max. per second w/ High Speed Averaging Mode): 25800:1

Signal to Noise Ratio (single scan): 380:1

Thermal wavelength drift: 0.02 nm/°C

Interfaces: USB, RS-232, Ethernet

Connector: USB Type-C, Samtec™ TFM-108-02-L-DH, RJ45

Temperature (storage): -30 °C to 70 °C

Temperature (operation): 0 °C to 55 °C

Dimensions: 149.0 mm x 106.4 mm x 48.2 mm

Weight: 931 g

For more information on the HR2, please contact an Ocean Optics Application Scientist today.

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