NR Spectrometers

Precision and Performance for Demanding NIR Applications

Ocean **NR** Series spectrometers are engineered for high-performance spectral analysis, delivering exceptional precision and reliability. Designed to excel in complex and low-light environments, NR spectrometers offer optical resolution as fine as 2.85 nm FWHM for detailed peak discrimination.

Ocean NR spectrometers provide better SNR, dynamic range, and resolution. They are available in three wavelength ranges - NR-512-1.7 (900-1700 nm), NR-512-2.2 (900-2200 nm) and the NR-512-2.5 (900-2500nm). Thermoelectric cooling ensures thermal stability and consistent results, while High Gain configurations enhance sensitivity to detect even the faintest signals.

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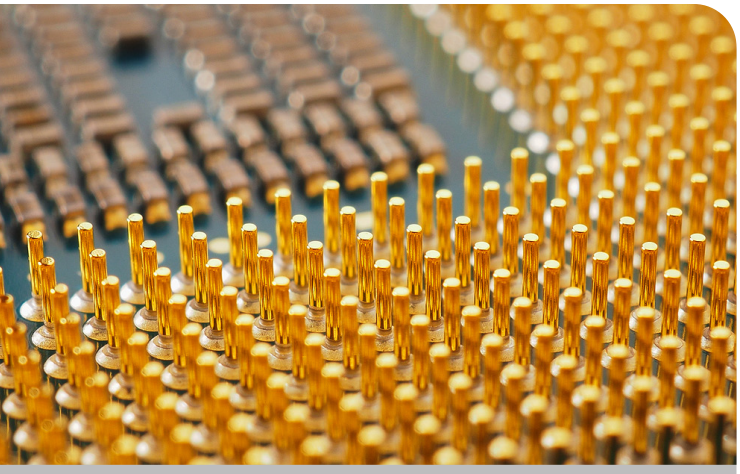


At a Glance

Wavelength range:

NR-512-1.7: 900-1700 nm
NR-512-2.2: 900-2200 nm
NR-512-2.5: 900-2500 nm

Optical resolution: As low as 2.7 nm (FWHM) (model dependent)

Integration time: 1 ms- 120 s

SNR: up to 10000
(model and version dependent)

Entrance aperture (slit): 25 µm
(other sizes available)

Thermal stability: thermoelectric cooling to -25 °C for low dark current (model dependent)

Order-sorting:

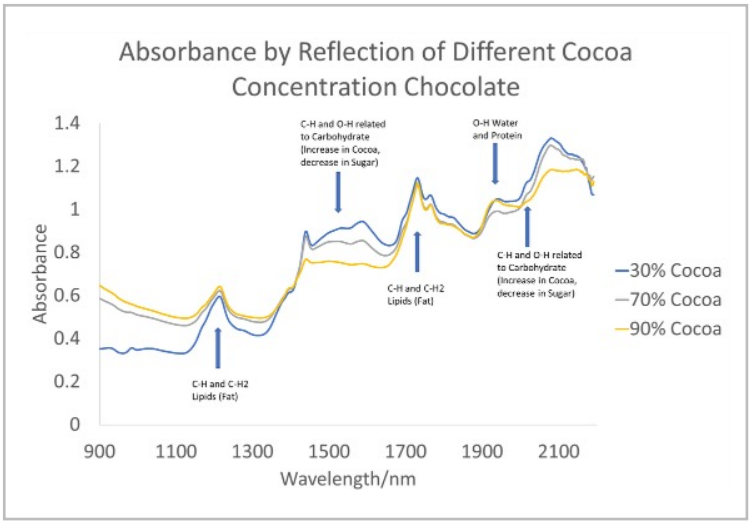
NR-512-1.7: Longpass filter (transmits >830) installed

NR-512-2.2: Improved order sorting filter (OD>4)

Sensitivity: High gain configurations available in 1.7 and 2.2

Sample Spectra for the NR-512-2.2

The NR excels at identifying spectral features in complex samples, uncovering details that other spectrometers may miss. Cleaner data and high gain options enable measurement of key quality factors for authentication and quality control.



Key Features and Benefits

The NR spectrometer is engineered with cutting-edge technology for complex NIR applications, including:

- Analyzing complex samples: Detect subtle spectral features with precision.
- Low-light or low-concentration measurements: Produce cleaner spectra for reliable measurements and lower limits of detection.
- Detecting weak signals: Amplified sensitivity for low-reflectance or strongly absorbing materials.
- High-speed measurements: Perfect for dynamic processes or samples moving on conveyor belts.
- Thermal stability: Cooled detector reduces dark noise for demanding environments.

The NR spectrometer is the solution for high-precision NIR analysis, offering unmatched sensitivity, stability, and clarity. Whether in research labs or industrial applications, the NR delivers results with confidence and accuracy.

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

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