

# Ocean SR Series: SR4 Spectrometer



## Versatile High Resolution Spectrometer

The **SR4** is a high resolution spectrometer with high-speed spectral acquisition and excellent signal-to-noise ratio (SNR) performance for diverse applications across the UV-visible-shortwave NIR range. This versatile spectrometer is anchored by a 3648-element CCD-array detector and robust electronics to deliver measurement

capabilities on the line or in the lab. Strong thermal wavelength stability and low stray light performance ensure reliable, reproducible results, even in challenging industrial environments.

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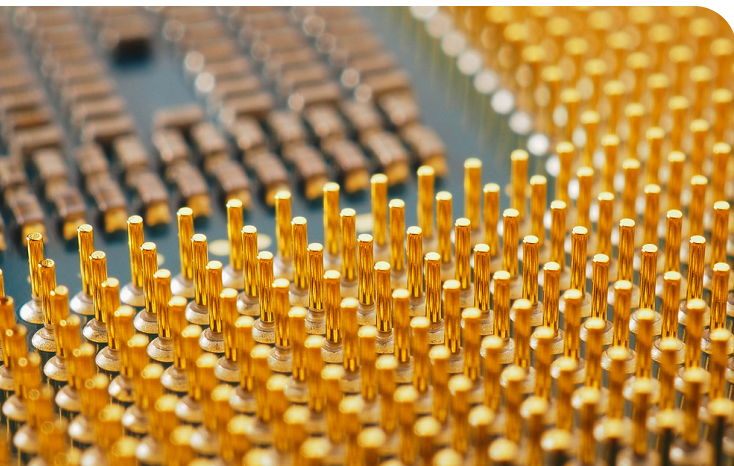
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**OceanOptics**



## At a Glance

**Wavelength Range:** ~190 - 1100 nm

**Optical Resolution (w/25  $\mu$ m slit):** 0.60-2.03 nm

**Dynamic Range:** 1300:1

**Integration Time:** 3.8 ms - 10 s

**Signal-to-Noise Ratio (max. per second w/ High Speed Averaging Mode):** 3000:1

**Signal-to-Noise Ratio (single scan):** 250:1

**Stray Light:** 2.3 AU

**Scan Rate:** 74 scans / second

**Thermal Stability:** 0.02 nm / ° C

**Interfaces:** USB, RS-232, Ethernet

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

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

**Temperature (operation):** 0° C-55° C

**A/D Resolution:** 16

**High Speed Average Mode:** Yes

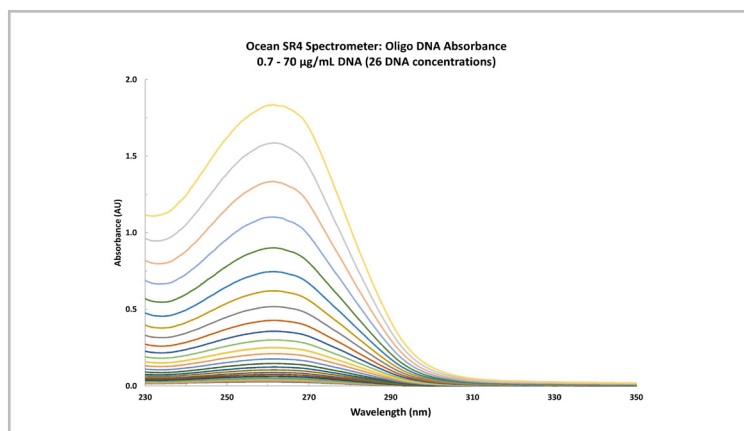
**Dimensions:** 88.1 mm x 63.5 mm x 31.4 mm

**Weight:** 254 g

## SR4 Communications

Each SR4 spectrometer is fully compatible with OceanView spectroscopy software and comes with OceanDirect, a powerful, cross-platform Software Developers Kit (SDK) with an Application Programming Interface (API). With its library of functions, OceanDirect allows users to optimize spectrometer performance and access critical data for analysis.

Also, SR4 has several trigger mode options that enable actions such as synchronizing spectral acquisition to an external event (e.g., pulsing of a lamp) or timing spectral acquisition to meet certain sampling conditions. Another useful function is High Speed Averaging Mode (HSAM), a hardware-accelerated signal averaging tool that dramatically enhances signal to noise ratio (SNR) per unit time. This promotes higher quality spectra and more accurate results.



Even a small amount of protein contamination in DNA solution can have a large effect on UV absorbance. In this case, SR4 demonstrated good linearity up to 2 AU.

## Additional SR4 Features

SR4 is highly configurable, with models covering different wavelength ranges from approximately 190-1050 nm and entrance slit options in widths of 5  $\mu$ m to 200  $\mu$ m. The SR4 spectrometer is compact, versatile and compatible with Ocean Optics light sources and accessories. SR4 demonstrates effective results for applications from measuring distinct spectral peaks within plasmas and emission sources to detecting subtle changes in absorbance in DNA, proteins and other biological samples.



**For more information on the SR4, please contact an Ocean Optics Application Scientist today.**