HummingBird™ UV-Vis Spectrometer

A compact, high-performance UV-Vis spectrometer for OEM, handheld and analytical integration

The HummingBird™ spectrometer delivers high-performance UV-Vis spectral analysis using linear CCD/CMOS array sensors in a compact optical platform. Its crossed Czerny–Turner design provides high resolution, low stray light (<0.2%), and excellent sensitivity while supporting flexible configurations. Designed for fast acquisition and reliable measurements, the HummingBird supports handheld, OEM, and precision analytical applications.

APPLICATIONS

- UV-Vis spectroscopy and optical analysis
- Thin-film and semiconductor inspection
- Biomedical and environmental monitoring
- Color and material analysis
- Process and quality control
- OEM and embedded system integration

KEY PERFORMANCE

Wavelength Range: 180-1100 nm

Optical Resolution: 0.2-10.5 nm (configurable)

Signal-to-Noise Ratio: 350-500 (model dependent)

Dynamic Range: 5400 / 3600 (CMOS), 4300–3800 (CCD)

Integration Time: 0.1 ms – 65 s

Stray Light: <0.2 %

Thermal Stability: <0.04 nm / °C

Interface: USB 2.0, 6x programmable digital I/O

HummingBird™ Specifications

	HB1034 / HB2034	HB1054 / HB2054	HB1094 / HB2094
Wavelength Range	180 nm – 1100 nm		
Sensor Type	Fast-Exposure	Back-thinned NIR Enhanced	Fast-Exposure, Back-thinned
Pixels	2048		
SNR	350	500	500
Dynamic Range	5400/3600	4300	3800
Stray Light	<0.2%		<0.45%
Thermal Stability	<0.04 nm / °C		
Dark Noise (avg)	12/18	15	17
A/D Converter	16 - bits		
Integration Time	0.1 ms – 65 s		
Operating Temperature	0°C to +50°C		
Grating	15 grating options, spectral range from UV to NIR		
Dimensions	83 (L) × 75.5 (W) × 26.75 (H) mm		