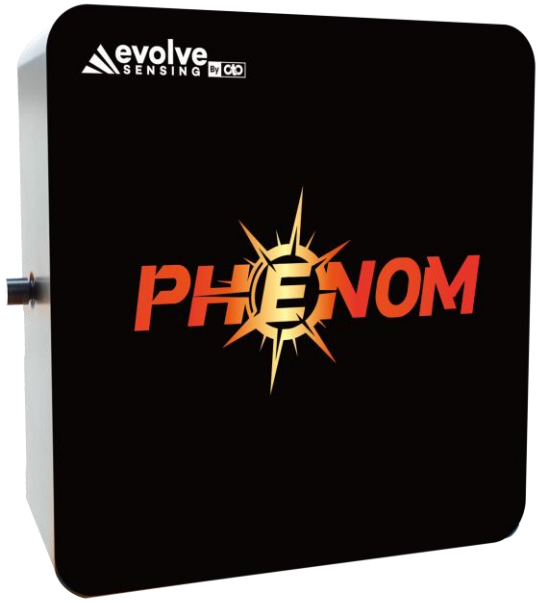
Phenom™ Vis-NIR High Resolution Spectrometer

A high-resolution Vis-NIR spectrometer for research, industrial, and OEM integration

The Phenom™ (PN) and Phenom-NIR™ (PN-NIR) Series spectrometers are designed for high-resolution spectral measurements across the visible and near-infrared regions. Featuring a T–R–T (Transmissive–Reflective–Transmissive) optical design with reflection gratings and a rigid optical bench, the Phenom Series delivers high resolution, low dispersion, and fast spectral response. Available with CCD, CMOS, or InGaAs sensors and powered by a 32-bit RISC microcontroller, the platform supports laboratory, industrial, and OEM integration.



APPLICATIONS

- Semiconductor and MEMS inspection
- Precision optics and metrology
- Raman and fluorescence spectroscopy
- Thin-film and ellipsometry measurement
- LED, laser, and light source characterization
- Scientific, industrial, and OEM system integration

KEY PERFORMANCE

Wavelength Range: 400 – 1700 nm (model dependent)

Optical Resolution: <0.1 nm (PN-V25/V30), <0.35 nm (PN-V32), <0.25 nm (PN-NIRQ)

Signal-to-Noise Ratio: 350 – 4000 (model dependent)

Dynamic Range: 3500 – 8200 (model dependent)

Integration Time: 0.1 ms – 65 s (model dependent)

Interface: USB 2.0 High-Speed

Phenom™ Specifications

	PN1030	PN1110	PN1080/2080	PN2570	
Wavelength Range	Customizable from 400 – 1000 nm			Customizable from 900 - 1700 nm	
Sensor Type	CMOS	CCD	CMOS	InGaAs	
Pixels	2048		4096	512	
SNR	350	500	350	High Gain	Low Gain
				2500	4000
Dynamic Range	4600(2.5MHz) /3100(10MHz)	4700	3500	High Gain	Low Gain
				5600	8200
Dark Noise (avg)	14(2.5MHz) 21(10MHz)	14	19	High Gain	Low Gain
				11	7
A/D Converter	16 - bits				
Integration Time	0.1ms - 65s	5ms - 65s	0.1ms - 65s	0.1ms - 24s	
Operating Temperature	0°C to +50°C				
Dimensions	180 (L) x 175 (W) x 60.7 (H) mm				