

RS-7 – Wavemon™ Option



The Wavemon™ Wavelength Monitor System upgrade is a multi-channel photodiode system that provides amplitude feedback and real-time wavelength measurements. It consists of three photodiodes each with an independent transimpedance amplifier circuit, with 5 gain ranges for each channel. Proprietary optical filtering techniques allow for wavelength accuracy of $\pm 0.25\text{nm}$ and repeatability of $\pm 0.05\text{nm}$ using only 3 photodiode channels. The Wavelength Monitor PCBA, photodiodes, and optical filter assembly are temperature stabilized using a Peltier cooler and thermistor in a PID feedback loop.

Real-time Amplitude & Wavelength Monitoring Unmatched Accuracy and Repeatability

- Sub-nanometer Wavelength Measurement Accuracy
- $\pm 1\%$ Irradiance Measurement Accuracy
- ASCII Command Set for Simple Device Control
- 5 Gain Stages per Channel for Increased Dynamic Range
- Built-in Thermal Regulation for Long-term Stability
- On-board Unit-specific Calibration Data
- ISO/IEC 17025 Accredited by NVLAP (NVLAP lab code 200823-0) for Calibration Accuracy

The SpectralLED® family of tunable light sources incorporate 35 discrete wavelengths for synthesis of commercially available light sources or based on spectra that you import.

The platform is easily adaptable for automated test systems and production line integration, with integrated optical feedback and temperature control to ensure rock-solid stability and consistent results.



350nm

500

600

700

1000

Accuracy Specifications	
Spectral Range	365 nm to 1,100 nm (Short Wave Infrared options possible)
Wavelength Absolute Accuracy	± 0.25 nm
Wavelength Repeatability	± 0.01 nm
Irradiance Absolute Accuracy	± 1%
Irradiance Repeatability / Stability	0.1%
Electrical Specifications	
Photodetector Channels	One bare Silicon, two optically filtered Silicon
Transimpedance Amplifier	Channel independent, shielded and temperature stabilized circuit
Gain Ranges per TIA Channel	5
General Specifications	
Com Port	FTDI USB UART (virtual)
Interface Protocol	Simple ASCII commands
Interface Connectors & Input Requirements	Connects directly to the RS7 light engine via included cables
Dimensions	Length 71.5mm (2.82 in), Width 44.5mm (1.75 in), Height x 44.5mm (1.75 in)
SpectraLED® Family of Tunable Light Sources	
RS7-1 Benchtop	75mm output port with integral integrating sphere
RS7-2 Large Output Port	Exit ports ranging from 150mm to 600 mm
RS7-3 Fiber Optic Output	One or more fiber outputs with distal end collimation
RS7-4 Wafer Probe	Directly replaces lamp-based systems
RS7-5 Baffle Output	150mm output with user adjustable f/number of f/1, f/2, f/3 or f/4
RS7-6 Wide Field of View	75mm output port with up to 180° field of view
RS7-7 Light Booth	CRI experimentation, analysis & optimization

Specifications are subject to change without notice

