

i-Spec™ Series

Spectrometer System

Broadband Transmission / Reflectance / Absorption Spectrophotometers

Photo for Illustration Only

The i-Spec™ is a broadband transmission / reflectance / absorption spectrophotometer with various accessory options for bench-top and portable uses. The i-Spec system can employ CCD, Photodiode Array, InGaAs array, and/or Extended InGaAs array spectrometers for optimal sensitivity and dynamic range in the UV, Vis, SW and LW NIR. The i-Spec features a standard external triggering port with flexible fiber optic coupling of sampling accessories and high intensity, long lifetime tungsten halogen 5 Watt or 20 Watt sources with high speed detection systems. This enables fast spectral capturing of 20 to >100 spectra per second, making the i-Spec ideal for spectrophotometric studies where high-speed spectrum capture rates are essential.

Applications:

- **Bench-top, At-line , and In-field**
- **Chemical Analysis of Clear Liquids, Opaque Liquids, and Gels**
- **Diffuse Reflectance Material Property Measurements of Solids**
- **Petrochemicals / Semiconductors / Pharmaceutical / Agricultural**

Features:

- Broadband Transmission, Reflectance, Absorption Measurements
- Flexible Fiber Coupling of Sampling Accessories
- Portable, Rugged, Turnkey Design
- USB 2.0 Plug-and-play Interface
- Battery Option Available

Sampling Accessories:

- Fiber Dip Probes
- Fiber Reflectance Probes
- Dark Field Reflectance Probes
- Assembly Options:
Trifurcated, Bifurcated, & Round-to-slit

Light Source Application Optimization:

Light Source	Application
5W Tungsten Halogen	Best for Transmittance Measurements Can Support Transreflectance and <i>Some</i> Reflectance Measurements
20W Tungsten Halogen	System Performance is Optimized for Reflectance Measurements

Common Specifications (Typical):

System		
Measurements	Transmittance, Reflectance, Absorbance Fiber Optic Probes and Sampling Accessories Required (Sold Separately)	
Connections	Illumination and Collection SMA905 Ports for Fiber Optic Coupling	
Triggering	Front Panel Connection for Use with Sampling Probes with Triggering Feature	
Computer Interface	USB 2.0/1.1	
Software	iSpec™	
Software Options	Software Developer's Kit (SDK) Sample Code: C#, C++, Visual C++, Visual Basic, VBA, Labview, VB.NET	
Instrument Dimensions	9.5 (H) x 6.7 (W) x 13.7 (D) in	242 (H) x 170 (W) x 347 (D) mm
Weight (Model Dependant)	7.9 - 10.8lbs	3.6 - 4.9kg
Power Adaptor	12V DC @ 10.8 Amps,	Battery Option Available
Operating Temperature	0°C to 45°C	
Spectrometer		
Optical Design	Crossed Czerny-Turner Spectrographs	
Digitization Resolution	16-bit or 65,535 to 1	
Integration Time	250µs - 5ms (Min. Spectrometer Dependant), 63,535ms x multiplier (Max.)	
Light Source	Tungsten Halogen 5W	Tungsten Halogen 20W
Spectral Output Range	350 to > 2600nm	350 to > 2600nm
Color Temperature	2800 K	2900 K
Warm Up Time	~40 Minutes	~40 Minutes
Rated Life	10,000 Hours	2,000 Hours

Ordering Guidelines:

Model Number	Wavelength Range (nm)	Spectral Resolution (nm FWHM) & Detector Array	Tungsten Halogen Light Source (W)
BWS005A-05	400 - 2200	~5.8 (400-1150nm) Photodiode Linear Array ~13 (1100-2200nm) TE Cooled Extended InGaAs array	5
BWS005A-20			20
BWS015-05	350 - 1700	~1.2 (350-1050nm) TE Cooled Silicon CCD Array ~4.0 (900-1700nm) TE Cooled InGaAs linear Array	5
BWS015-20			20
BWS035-05	900 - 1700	~ 4.0 (900-1700nm) TE Cooled InGaAs Array	5
BWS035-20			20
Call	400 - 2550	Contact B&W Tek, Inc. for More Information	5
			20