

Spectrometer System *i-Spec™* Series

Broadband Transmission / Reflection / Absorption Spectrophotometers



i-Spec™ series products are broadband transmission / reflection / absorption spectrophotometers with various accessory options for bench-top, as well as portable uses. Systems can employ a TE Cooled CCD array, Photodiode Array, TE Cooled InGaAs array, and/or TE Cooled Extended InGaAs array detection systems, for optimal sensitivity and dynamic range in the UV, Vis, and NIR. The *i-Spec™* products feature a standard External Triggering port with flexible fiber optic coupling of sampling accessories. *i-Spec™* series products use high intensity and long lifetime Tungsten Halogen 5 Watt or 20 Watt sources and high speed detection systems, enabling fast spectral capturing of 20 to >100 spectra per second making them ideal for spectrophotometric studies where high-speed spectrum capture rates are essential.

Highlights:

- Broadband Transmission, Reflection, Absorption Measurements
- Portable, rugged turnkey design
- USB 2.0 plug-and-play interface
- Flexible fiber coupling of sampling accessories
- Battery Option Available

Applications:

- Agricultural, Pharmaceutical, and Petrochemical
- Material diffuse property characterization
- Opaque chemical solution analysis
- Bench-top and In-field spectrophotometric measurements

Sampling Accessories:

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

Light Source Application Optimization:

Light Source	Application
5W Tungsten Halogen	Best for Transmittance measurements. Can support Transflectance 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	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