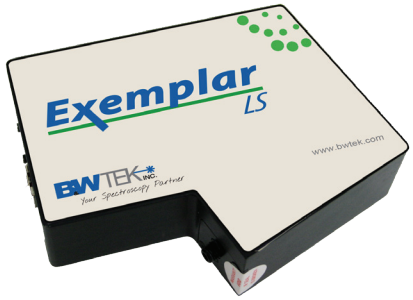
B&W TEK INC.
Your Spectroscopy Partner

SPECTROMETERS | LASERS | TOTAL SOLUTIONS

Spectrometer

Exemplar® *LS*

Low Straylight Smart CCD Spectrometer



The Exemplar® LS is a smart CCD spectrometer optimized for low straylight by utilizing an unfolded Czerny-Turner spectrograph. It features on board data processing, USB 3.0 communication, and temperature compensation. The Exemplar LS is also optimized for multi-channel operation, featuring ultra-low trigger delay and gate jitter. Additionally, the Exemplar LS features a 2048 element detector and built-in 16-bit digitizer with greater than 2.0 MHz readout speed.

The Exemplar LS is available in two standard spectral configurations: 200nm - 400nm and 200nm – 850nm with resolutions of less than 0.4nm. Custom configurations are available for OEM applications.

Applications:

- **UV, Vis, and NIR: Spectroscopy / Spectroradiometry / Spectrophotometry**
- **Absorbance / Reflectance / Transmittance**
- **Kinetic Reaction Monitoring**
- **Transient Spectral Analysis**
- **Wavelength Identification**
- **OEM Systems Integration**
- **Multi-point Sampling**

Additional Features:

- Temperature Compensation for Ultra-low Thermal Drift
- 1ms Minimum Integration Time
- Low Straylight Spectrograph
- < 0.4nm Spectral Resolution
- >2.0 MHz Readout Speed
- UV - Vis (200nm - 850nm)

SMART:

On-board processing including averaging, smoothing, and dark compensation

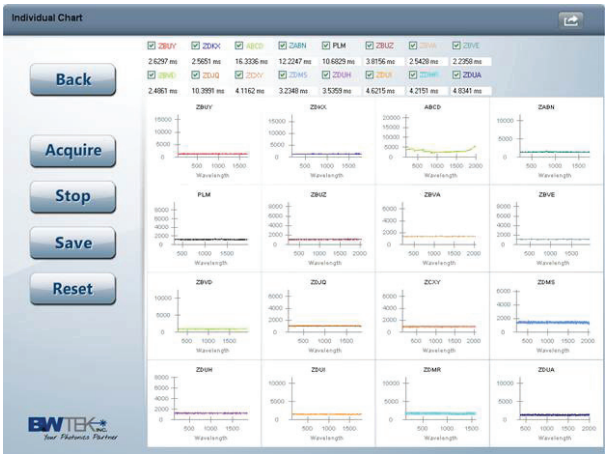
SPEED:

"SuperSpeed" USB 3.0 transferring up to 900 spectra per second

SYNCHRONOUS:

Supports up to 32 devices with ultra-low trigger delay (14ns) & gate jitter (+/- 1ns)

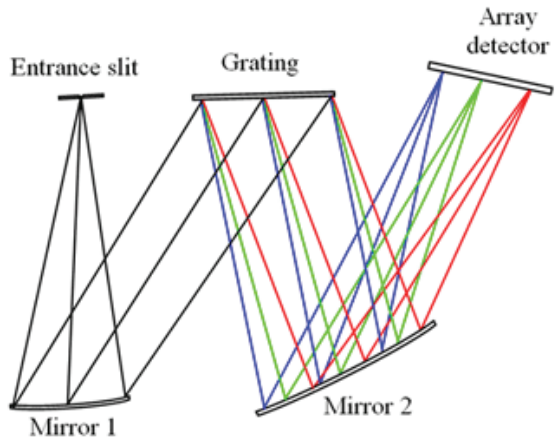
SIGNAL TO NOISE RATIO:	
On-board Averaging 1	~295
On-board Averaging 10	~929
On-board Averaging 100	~2450



Specifications:

Power Input	USB @ < 0.5 Amps
Detector Type	Response Enhanced Linear CCD Array
Wavelength Range	200nm - 850nm
Detector Pixel Format	2048 x 1 Elements @ 14µm x 200µm Per Element
Spectrograph f/#	3.6
Spectrograph Optical Layout	Czerny-Turner
Dynamic Range	1300:1 Single Acquisition
Digitizer Resolution	16-bit or 65,535:1
Readout Speed	>2.0 MHz
Data Transfer Speed	Up to 900 Spectra per Second in Burst Mode
Trigger Delay	~14ns
Minimum Integration Time	1ms, Adjustable in 1µs Increments
Thermal Drift	~29 Counts/°C (Max)
Aux Port	External Trigger, Digital IOs & Analog IOs
Operating Temperature	5°C - 35°C
Operational Relative Humidity	85% Noncondensing
Weight	~ 0.8 lbs (0.37 kg)
Dimensions	4.9in x 3.6in x 1.4in (124mm x 91mm x 35mm)
Computer Interface	USB 3.0 / 2.0 / 1.1
Operating Systems	Windows: XP, Vista, 7 (32-bit & 64-bit)

Spectrograph



Entrance Slit

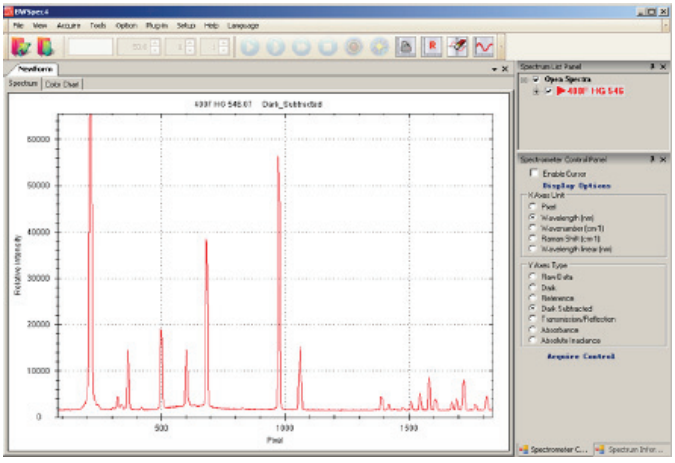
Slit Option	Dimensions	Approx. Resolution 200-400nm
10µm	10µm wide x 1mm high	~0.4nm
25µm	25µm wide x 1mm high	~0.6nm
50µm	50µm wide x 1mm high	~1.0nm
100µm	100µm wide x 1mm high	~1.6nm
200µm	200µm wide x 1mm high	~3.0nm
Custom Slit Widths Available		

Diffraction Grating

Best Efficiency	Spectral Coverage (nm)	Grating
UV	200 - 400	1800/250
UV - NIR	200 - 850	600/250
Custom Configurations Available		

Software:

BWSpec™ is a spectral data acquisition software with a wide range of tools that are designed to perform complex measurements and calculations at the click of a button. It allows the user to choose between multiple data formats and offers optimization of scanning parameters, such as integration time. In addition to powerful data acquisition and data processing, other features include automatic dark removal, spectrum smoothing, and manual/auto baseline correction.



Accessories:

- Inline Filter Holders
- Fiber Optic Probes
- Fiber Patch Cords
- Cuvette Holders
- Light Sources

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