

Sol™ 1.7

900 - 1700 nm NIR Range TE-Cooled InGaAs Array Spectrometer

Spectrometer



The Sol™ 1.7 (BTC261P) is a high performance linear InGaAs array spectrometer, featuring 512 pixels with TE cooling down to -5°C , all while providing high throughput and large dynamic range.

Each spectrometer features an SMA 905 fiber-optic input, a built-in 16-bit digitizer, and is USB 2.0 plug-and-play compatible. With our spectral acquisition software, you can select between High Sensitivity and High Dynamic Range mode within your pre-configured spectral range. Customized spectral resolution and application support are available for OEM applications.

Applications:

- ★ Process monitoring
- ★ NIR spectroscopy
- ★ Quality control
- ★ On-line analyzer
- ★ Material identification

Accessories:

- ★ Light sources
- ★ Fiber patch cords
- ★ Fiber sampling probes
- ★ Fiber sample holders

Features:

- ★ 900 nm - 1700 nm spectral range
- ★ Resolution as fine as 0.35 nm
- ★ Built-in 16-bit digitizer
- ★ -20°C thermoelectric cooling available
- ★ Two gain modes for specific application needs
- ★ 256 & 1024 pixel configurations available



Thermoelectric Cooler

Cooling an array detector with a built-in thermoelectric cooler (TEC) is an effective way to reduce dark current and noise, as well as to enhance the dynamic range and detection limit.

When the InGaAs array detector is cooled from a room temperature of 25°C down to -10°C by the TEC, the dark current is reduced by 12.25 times and the dark noise is reduced by 3.5 times. This allows the spectrometer to operate at longer exposure times and to detect weaker optical signals.

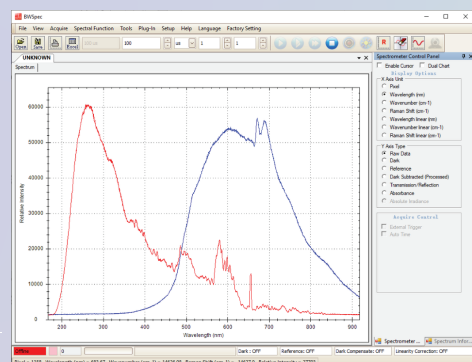
More about our Sol™ 1.7

Specifications:

Model No.	BTC261P
DC Power Input	5V DC @ 3.5 amps
AC Power Input	100 - 240 VAC 50/60 Hz, 0.5A @ 120 VAC
Detector Type	Linear InGaAs Array
Pixels	512 x 1 @ 25 µm x 500 µm per element
Spectrograph f/#	3.5
Spectrograph Optical Layout	Crossed Czerny-Turner
Dynamic Range	High Dynamic Range mode: 100,000:1 High Sensitivity mode: 6,250:1
Digitizer Resolution	16-bit or 65,535:1
Readout Speed	500 kHz
Data Transfer Speed	>200 spectra per second via USB 2.0
Integration Time	200 µs to >= 64 seconds
External Trigger	Aux port
Operating Temperature	0° C - 35° C
TE Cooling	-5° C @ relative humidity = 90% (-20° C option available)
Weight	~ 3.1 lbs (1.4 kg)
Dimensions	7.8 in x 4.3 in x 2.7 in (197 mm x 109 mm x 68 mm)
Computer Interface	USB 2.0 / 1.1
Operating Systems	Windows: 7, 8, 10, 11

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. SDK with demo code is available as additional option.

Entrance Slit

Slit Option	Dimensions	Approximate Resolution 900 -1700 nm
25 µm	25 µm wide x 1mm high	~4.0 nm
50 µm	50 µm wide x 1mm high	~5.0 nm
100 µm	100 µm wide x 1mm high	~8.4 nm
Custom slit widths available		

Diffraction Grating

Spectral Coverage (nm)	Grating	Approximate Resolution 25 µm Slit
1500 - 1600	1000 / 1310	0.35 nm
1260 - 1355	1000 / 1310	0.4 nm
1450 - 1650	600 / 1200	0.8 nm
1200 - 1400	600 / 1200	0.7 nm
900 - 1300	300 / 1200	1.5 nm
1200 - 1600	300 / 1200	1.5 nm
900 - 1700	150 / 1250	4.0 nm
Custom configurations available		

Spectrograph:

