

BTC311E High Resolution TE Cooled 16 Bit USB 2.0/1.1 Linear CCD Spectrometer



BTC311E is a low cost and high resolution TE cooled linear CCD spectrometer. It is equipped with a 2048 element thermoelectric cooled (TEC) linear CCD array, a 16 bit built-in digitizer with USB 2.0/1.1 interface, Windows based operating software, and fiber coupled input capability. Compared with non-cooled CCD spectrometers, the BTC311E products offer much higher dynamic range, greatly reduced dark counts and superior long term operation stability, and are ideal for low light level detections and long term monitoring applications. They come in standard wavelength ranges of UV, Vis, NIR or custom specified. Pixel resolution of 0.075nm or higher can be supplied. Flexible custom configurations and application support are provided.

Highlights

- *Compact in size*
- *UV, Visible, NIR and custom versions available*
- *TEC cooled high stability and low dark counts*
- *Built-in 16 bit digitizer*
- *High performance to cost ratio*
- *Plug and Play high speed USB 2.0/1.1 interface*
- *0.075 or better in resolution available*
- *Ideal for low light level applications*
- *Custom configurations and application support*

Applications

- *UV, Vis and NIR spectroscopy*
- *On-line inspections*
- *Laser and LED measurements*

Specifications

BTC311E High Resolution Spectrometer

Power input:	5V DC @ < 1.2A
Operating temperature:	10° to 35° C
Detector:	TE cooled 2048-element linear silicon CCD array
CCD elements:	2048 elements @ 14µm x 200µm per element
Effective range:	UV 200-400, Vis 390-760, NIR 750-1050nm, or Custom coverages
Cooling temperature:	5 - 10° C factory default
Spectrograph f#:	3.3
Spectrograph optical layout:	Czerny-Turner
Grating:	300-1800 lines/mm available with different blaze wavelengths
Slit:	5 - 800µm width dependent on resolution requirements (slit height : 1000µm)
Pixel resolution:	0.05 to >10nm (wavelength range dependant)
Stray light:	0.05% at 600nm for Vis
Digitizer resolution:	16 bit or 65,535 to 1
Digitizer speed:	500KHz (maximum)
Integration time:	5 to 65,535 milliseconds without multiplier
Computer interface:	USB 2.0 and 1.1 compatible
Operating software:	Windows Me, 2000 and XP comparable
Weight:	2lb.
Dimensions:	7.0 (Width) x 4.25 (Depth) x 2.75 (Height) inches

Available Accessories:

Light source:	Deuterium for UV and tungsten for Vis and NIR
Fiber patch cord:	50, 100, 200, 400, 600 mm and custom diameters
Fiber sampling probes:	Reflectance, absorbance, and other probes
Fiber sample holders:	2 port transmission and 4 port fluorescence cuvette holders

BW-Spec Operating Software

Minimum Hardware Requirements

- IBM PC compatible
- 486 CPU or higher
- One free USB 2.0 or 1.1 port
- One CD ROM drive
- One 3.5" floppy disk drive
- 8MB RAM
- 10MB free hard drive space

