

## Miniature Array Spectrophotometer



The BTT111 miniature array spectrophotometer is a newly designed instrumentation system for sample transmission and absorption measurements from 190-1050nm. The spectrophotometer includes a USB interface for easy plug-and-play operations. Its compact mechanical design gives superior portability whether in the lab or field.

### Highlights

- Compact design with no moving parts
- 16 Bit A/D Resolution
- Long lifetime pulsed Xenon or D2/tungsten lamps
- TE cooled, temperature regulated CCD array detection to suit field use environmental conditions
- Fast warm-up time for measurement
- Modularized excitation source design for custom wavelengths and easy replacements
- Optimally designed optics enable high efficiency and wide linear range detection
- Multifunctional and flexible
- Best performance to cost ratio

### Applications

- Transmission/absorption/Reflection spectroscopy of liquids
- UV-Vis-NIR spectral analysis
- Portable field measurements of environmental samples
- Chemical, Petrochemical, polymer, biomedical, food and feedstuffse

# BTT111

## Miniature Array Spectrophotometer

### Typical Specifications

|                          |   |
|--------------------------|---|
| Wavelength Range         | 190 - 1050 nm   |
| Light Source             | Pulsed Xenon or D2/tungsten lamps                             |
|                          | $1 \times 10^9$ flash lifetime for xenon or 1000 hours for D2 |
| Detector Viewing Angle   | $0^\circ$   |
| Filter Holder            | Customer accessible   |
| Detector                 | 2048-element linear CCD array, TE cooled                      |
| Optical Resolution       | 1.5 nm  |
| Path Length              | 10 mm standard  |
| Sample Holder            | Standard 12.5 x 12.5 mm cuvette holder                        |
| Stray Light              | < 0.5% @ 600 nm   |
| Integrating Time         | 9 ms minimum  |
| A/D Resolution           | 16 bit  |
| Wavelength Accuracy      | 1 pixel (~0.30nm)   |
| Photometric Accuracy     | < 0.1%  |
| Signal to Noise Ratio    | 300:1   |
| Warm-up Time             | < 5 minutes   |
| Power Consumption        | 10 W  |
| Dimensions               | 238.4(D) x 192(W) x 128(H) mm                                 |
| Weight                   | 4.1 kg  |
| Computer Interface       | USB 2.0 and USB 1.1   |
| Operating software       | BWSpec software with OCX control for Grams AI                 |
| Operating Temperature    | 10 - 35 °C  |
| Environmental Conditions | 0 - 60 °C, 0 - 85% RH   |