

CI-710

■ Miniature Leaf Spectrometer

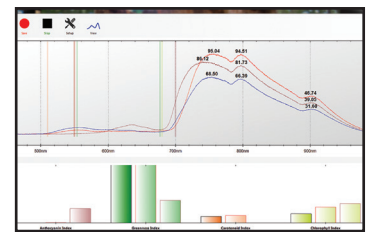
The CI-710 Miniature Leaf Spectrometer measures light transmission, absorption, and reflection of leaves. The reference illumination light is generated by two combined sources: a blue LED and an incandescent lamp providing output covering the visible to near infrared (NIR) range covering the range of 400 – 950 nm.

The leaf clip isolates stray light and secures the specimen for analysis. The SpectraSnap! software program rapidly estimates pigments using indices and outputs both the waveform and individual wavelength values from the spectrometer in a conveniently analyzed format.

Dimensions	89.1 mm x 63.3 mm x 34.4 mm
Weight	290 g
Operating environment	-30° to 70° C storage, -10° to 50° C Operation, 0% - 90% noncondensing humidity
Detector	Toshiba TCD1304AP Linear CCD array
Wavelength range	400-950 nm
Pixels	3648 pixels
Pixel size	8 μm x 200 μm
Pixel well depth	100,000 electrons
Signal-to-noise ratio	300:1 (at full signal)
A/D resolution	16 bit
Dark noise	50 RMS counts
Corrected linearity	>99.8%
Sensitivity	130 photons/count at 400 nm; 60 photons/count at 600 nm
Optical resolution	~0.3-10.0 nm FWHM (grating dependent)

Product Features

- ▶ Measurements of Reflectance, Absorbance, and Transmittance of leaves
- ▶ Portable and rapid spectral analysis
- ▶ Handheld computer included to power the instrument and run preloaded SpectraSnap! software
- ▶ Quick adaptability for measuring intensity and irradiance of light environments
- ▶ Analysis and integration of peaks at multiple wavelengths with included SpectraSnap! Software
- ▶ 29 pre-programmed Vegetation Indices
- ▶ User-programmable, automatically calculated indices



Integration time	3.8 ms - 10 seconds
Dynamic range	2 x 10 ⁶ (system), 1300:1 for a single acquisition
Stray light	<0.05% at 600 nm; 0.10% at 435 nm
Power supply	USB Powered via PC
Power consumption	400 mA @ 5 VDC
Data transfer speed	Full spectrum to memory every 5 ms with USB 2.0 port
Trigger modes	Automatic & manual