Ceptometer

There are several methods to measure how much light is intercepted by a canopy in order to determine if water loss is from evaporation or transpiration. There's the hard & expensive way and then there's the smart way: the CTR-1. "Instrumex" make Ceptometer offers convenient and flexible tools for measuring and analyzing incident and transmitted Photo synthetically Active Radiation (PAR) in Crop and Forest canopies. This is a a non-destructive method to easily and accurately measure Leaf Area Index (LAI). It provides vital information about the penetration of PAR into crops and forest, and is essential in work such as comparative crop studies, for separating out the effects of cultivars and treatment. It is particularly well suited to low regular canopies (as found in many agricultural crops). It can be used in most light conditions. The first sensor probe has an array of 10 PAR sensors embedded in a 1m long probe, and is connected with Handheld Terminal. The second sensor probe also has a 1 PAR sensor embedded in a 0.5m long probe, and is connected with handheld Data logger. One PAR Sensor is also connected with data logger for reference incoming radiation. When a reading is taken, all sensors are scanned and the measurements transmitted to the data logger. The average light level along the probe is calculated. Further you can download data from data logger to a computer (USB Port) with the help of " Instrumex ware" (PC Interface Software).

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Features & Specifications

Sensor Input: PAR Sensor.
Processor: 16 bit Extreme Low Power
Parameter Monitored: Date, Time, Incoming PAR, Diffuse PAR, LAI.
Display: LCD (16 X 2) to display the instrument status.
Keyboard: provided for on-site programming.
Logging: Manual / Automatic (User Selectable)
logging Internal 1 sec to 24 hrs
Site Reference Programmable
User can be view / delete logger data at site without help of computer.
Key Tone Provided with user selectable ON/OFF Feature
Back Light: Provided with user selectable High, Medium & Low intensity and ON/Timed ON feature.
LCD Contrast: Provided with user selectable 0 to 7 contrast Levels.
PC Software: GUI based Instrumex ware software for Data download.
Real Time Clock: Internal with accuracy of +/- 2 minutes /year & leap year compensation
Memory: 4000 data sets.
Battery : 2XAA Alkaline Batteries (easily replaceable onsite).
Battery Monitoring: Battery Level display on LCD with Low Battery Warning
Operating Humidity 0 to 100%, Operating Temp: - 20 to 70 °C
Data Port: USB Port for Downloading Data from Data Logger to Computer/Laptop.
Data Output Format MS- Excel

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Specifications of Reference PAR Sensor

Cosine Response: 45° zenith angle: ± 1%, 75° zenith angle: ± 5%
Spectral Range: 409 to 659 nm
Accuracy: ± 5%
Uniformity: ± 3%
Repeatability: ± 1%
Output: 0 to 600 mV
Responsivity: 0.2 mV per µmol m^{-2} s^{-1}
Calibration Factor: 5.0 µmol m^{-2} s^{-1} per mV
Response Time: Less than 1 millisecond
Field of View: 180°
Long-Term Drift: Less than 2% per year
Power Requirement: Self-Powered
Operating Environment: -40 to +60 °C

(1 PAR sensor embedded in a 0.5m long probe is used for small canopies)

(An array of 10 PAR sensors embedded in a 1m long probe is used for large canopies)

Application Software (Instrumexware)

This is a user-friendly, Menu Driven, Windows based software allows you to view & save collected data from data logger to computer/laptop. Data file is saved in Microsoft's Excel format.

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SN	Description	Model No.
1	Ceptometer with Direct Incoming PAR & 1-PAR Sensor Probe	CTR-VH-1-1
2	Ceptometer with Direct Incoming PAR & 10-PAR Sensors Probe	CTR-VH-1-10
3	Ceptometer with complete set of Sensors	CTR-VH-1-101

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Represented by

**Drawing/specifications are subjected to change at any time without prior notice as per manufacturing suitability.