Chlorophyll Content Meter CCM-200

Takes non-destructive measurements of relative chlorophyll concentration through optical analysis.

Description

Chlorophyll has several distinct optical absorbance characteristics that the CCM-200 exploits in order to determine relative chlorophyll concentration. Strong absorbance bands are present in the blue and red but not in the green or infrared bands.

The CCM-200 uses absorbance to estimate the chlorophyll content in leaf tissue. Two wavelengths are used for absorbance determinations. One wavelength falls within the chlorophyll absorbance range while the other serves to compensate for mechanical differences such as tissue thickness. The meter measures the absorbance of both wavelengths and calculates a CCI (chlorophyll concentration index) value that is proportional to the amount of chlorophyll in the sample.

Chlorophyll transmission is characteristically high in the near infrared range and very low in the red range because green plants absorb visible radiation for photosynthesis and transmit near infrared, which they do not use.

The CCM-200 uses LEDs that emit specific wavelengths in the red and infrared ranges. The detector analyzes the ratio of the two wavelengths to determine chlorophyll concentration index (CCI).

Ordering Information

All products can be ordered at www.apogeeinstruments.com

For technical information contact techsupport@apogee-inst.com

Recommended Accessories

The spectroradiometer measures photon flux and energy flux with half nanometer bandwidth resolution.

Specifications

Measured Parameters

- Ratio of optical transmission at 931 nm (50 nm half-bandwidth) divided by transmission at 653 nm (25 nm half-bandwidth)

Measurement Area

- 71 mm^2
- 0.95 cm diameter

Resolution

- ± 0.1 Chlorophyll Concentration Index (CCI) unit

Output

- RS-232 automatic transfer with PC software included

Detectors

- Two silicon photodiodes with integral amplifiers

Sample Acquisition Time

- 2 - 3 seconds

Radiation Source

- Two LEDs

Range

- 0 to 200

User Interface

- 16 by 12 alphanumeric LCD
- 4 keys for control and data manipulation
- Beep-signal for status and warnings

Storage Capacity

- Internal datalogging of over 4000 measurements

Temperature Drift

- Temperature compensated source and detector circuitry for minimum drift over full range

Operating Temperature

- 0 - 50º C

Input Power

- Standard 9 V alkaline battery

Mass

- 220 g (with battery)

Warranty

- 1 year against defects in materials and workmanship