CI-340 Hand-Held Photosynthesis System

The CI-340 is a lightweight hand-held photosynthesis system. It features a new design concept and a compact solid-state structure. The entire system - display, keypad, computer, data memory, CO_2/H_2O gas analyzer, flow control system, and battery - is contained in a single hand-held case. It has everything you need to measure photosynthesis, transpiration, stomatal conductance, and internal CO_2 concentration, as well as many other factors. Because the chamber is connected directly to the CO_2/H_2O differential gas analyzer, there is virtually no time delay when measuring CO_2/H_2O in the chamber. With CID's carbonate injection CO_2/H_2O generator module, the CI-340 can precisely control CO_2 and H_2O concentrations in the leaf chamber. The CI-340 can also control temperature and light intensity with the optional temperature and light control modules. Furthermore, a chlorophyll fluorescence module can be attached to the CI-340 to simultaneously measure photosynthesis and chlorophyll fluorescence. These features make the CI-340 a fast, small, and accurate photosynthesis system for research and teaching.

Features

- An entire photosynthesis system in one hand-held case.
- Lightweight and truly portable.
- Open and closed system measurements.
- 9 interchangeable chambers for different types of leaves.
- Soil respiration chamber and plant canopy attachment available.
- Modular attachments include light, temperature control, CO_2/H_2O supply, and chlorophyll fluorescence measurement.
- Infrared non-contact leaf temperature measurement.
- Measures chlorophyll fluorescence and photosynthesis simultaneously.

CID,Inc.

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Specifications

Main System

Power Supply: 7.2 mAh. Rechargeable battery providing 4 hours of continuous use, or AC power with adapter provided, or 6 ~ 12 VDC input
Data Storage: 2 MB internal FLASH RAM
Data Output: PC link cable, RS232 or USB (with adapter)
Dimensions: 452 L × 53 W × 48 D mm
Weight: 1.5 kg (3 lb.) with battery
Flow Rate to Chamber: 100 ~ 1000 $cm^3 min^{-1}$ (1 lpm)
Readings Displayed: LCD 40 × 6 characters or 320 × 60 dots graphic

CO_2 Analyzer

Type: Stable analyzer for accurate CO_2 measurements
Sensor: Low-power infrared detector. No sensitivity to motion
Typical Response Time: @35 sec
Resolution: 0.1 ppm
Warm-Up Time: @3 minutes
Accuracy: Better than ± 2% anytime

H_2O Analyzer

Type: Stable analyzer for accurate H_2O measurements
Range: 0 ~ 100% RH
Sensor: Humidity-sensitive capacitor
Accuracy: ±2% at 10% RH. ±3.5% at 90% RH
Typical Response Time: @15 sec
Typical Signal: 0.5V for 50% RH

PAR Sensor

Type: Filtered GaAsP photodiode
Range: 0 ~ 2500 $\mu mol\ m^{-2}s^{-1}$
Accuracy: 5 $\mu mol\ m^{-2}s^{-1}$
Response: 400 ~ 700 nm

AIR Temperature Sensor

Type: Thermocouple
Range: -15 ~ 50°C
Accuracy: ± 0.1°C

Leaf Temperature Sensor

Type: Infrared
Range: -10 ~ 50°C
Accuracy: ± 0.3°C

Module Specifications

CI-301LA Light Module

Type: Red and blue LED lamp
Red Peak Wavelength: 660 nm ± 10 nm at 25°C
Blue Peak Wavelength: 470 nm ± 10 nm at 25°C
Output Range: 0 ~ 2500 $\mu mol\ m^{-2}s^{-1}$
Emitting Area: 80 × 40 mm
Dimensions: 64 × 100 × 160 mm

CI-301AD CO_2 & H_2O Supply Module

CO_2 Supply: CO_2 cartridge
CO_2 Range: 0 ~ 2000 ppm optional
H_2O Supply: Water vapor generator.
H_2O Range: 0 ~ 100% RH
Dimensions: 64 × 100 × 160 mm

CI-510CS Temperature Control Module

Type: Thermoelectric cooler
Range: -25 ~ +25°C from ambient temperature
Cooling Head Dimensions: 55 × 43 × 14 mm
Dimensions: 64 × 100 × 160 mm

CI-510CF Chlorophyll Fluorescence Module

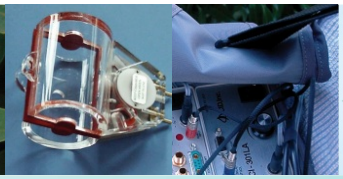
Modulated Light Intensity: 0.25 uE at 12 mm
Flash Light Intensity: 3000 uE at 12 mm
Modulation Frequency: 8 ~ 80 Hz
Fiber Optic Probe: Bifurcated light guide
Dimensions: 64 × 100 × 160 mm

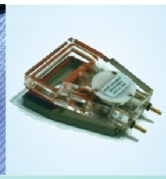
The four modules can be packaged in one carrying bag.
Dimensions: 200 × 128 × 160 mm

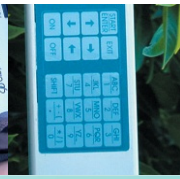
Specifications subject to change without notice.

Order Information

Includes infrared gas analyzer, PAR sensor, air temperature sensor, choice of one leaf chamber, an infrared non-contact leaf temperature sensor, a Soda Lime tube, a Silica Gel tube, a spare parts kit, rechargeable battery, battery charger, RS232 communication cable, communication software, operating manual, and a carrying case.







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