CI-340

▮ Handheld Photosynthesis System

Accurate and Portable—
Gas Exchange on the Go!

Compact and durable, this single-handed tool measures photosynthesis, respiration, transpiration, stomatal conductance, PAR and internal CO_2 all in one easy to carry unit. Optional accessory modules enable the researcher to control CO_2, H_2O, temperature, light intensity, and measure chlorophyll fluorescence, while the ten different customized chambers accommodate any leaf size, including conifer needles and cacti. Direct chamber connection to the CO_2/H_2O gas analyzer reduces measurement delay and enables rapid measurement of gas exchange.

✦CID Bio-Science INC.
Tools that work where you work.

CI-340

◼ Handheld Photosynthesis System

The CI-340 is a field ready, portable, and lightweight photosynthesis analyzer. This gas exchange system is easy to operate in the lab or the field, in any conditions.

The CI-340 comes ready to take ambient measurements of gas exchange right out of the case. Optional environmental modules allow the researcher to control CO_2, H_2O, temperature, and light, as well as measure chlorophyll fluorescence and photosynthesis rates simultaneously.

Main unit	On board IRGA for CO_2 / H_2O Analysis, H_2O Analysis Flow Control, display & keyboard, leaf chamber attachment facility and battery
Display	LCD 40 x 6 characters or 320 x 64 pixels
Data storage	4 MB Internal FLASH RAM
Data output	USB
Flow rate	100 ~ 1000 cm² / min
Power supply	7.2 VDC, 4400 mAh for 5 hours continuous use, extended hours of use with additional batteries. AC adapter / battery charger supplied
Weight	1.5 kg (3 Lbs) with battery
Dimensions	44 cm x 5.5 cm x 5 cm
Operating temperature	0-45°C

Product Features

- ▸ Lightest Photosynthesis System for scientific research at 1.5 kg

- ▸ Measurements of
  photosynthesis
  transpiration
  stomatal conductance
  internal CO2 concentration

- ▸ Accommodates open and closed system measurements
- ▸ Ten interchangeable chambers available to accommodate broadleaf plants, cactus, grasses, conifers, and succulents

- ▸ Soil respiration chamber available

- ▸ Optional, modular environmental control attachments including: light, temperature control, CO_2/H_2O supply and chlorophyll fluorescence measurement

- ▸ Infrared, non-contact leaf temperature measurement

- ▸ Chlorophyll fluorescence and photosynthesis measured simultaneously

- ▸ Data can be displayed in real time through a projector, making it a convenient classroom demonstration tool

- ▸ Free support via Skype

Operating RH	0-90% non-condensing
Warm-up time	Approximately 3 minutes
Battery	7.2 volt rechargeable Li-Ion

CO$_2$ ANALYZER SPECIFICATIONS

Sensor	Low power non-dispersive infrared gas analyzer
Chopping frequency	1Hz
Sensors response time	35 seconds
Source life	5000 hours
Measuring range	0 to 2000 ppm (standard) 0 to 3000 ppm (optional)
Resolution	0.1 ppm
Repeatability	±0.1 ppm (short term)
Accuracy	< ±2% up to 2000 ppm
Sample cell	100 mm x 10.2 mm (3.94"L x 0.40" Dia)
Warm-up time	Approximately 3 minutes
Battery	7.2 volt rechargeable Li-Ion
Operating temperature	-5 to 45 °C
Dimensions	35.5 cm x 4.5 cm x 5 cm

H$_2$O ANALYZER SPECIFICATIONS

Sensor type	Humidity sensitive capacitor
Stability	Stable analyzer for accurate H$_2$O measurements
Measuring range	0-100%
Resolution	0.1%
Accuracy	±2% at 10% RH, ±3.5% at 95% RH

PAR MEASUREMENT

Sensor type	Filtered GaAsP - Photodiode
Measuring range	0 - 2500 µmol / m^2 / sec
Accuracy	±5 µmol 0-2500 µmol / m^2 / sec

CHAMBER TEMPERATURE MEASUREMENT

Sensor type	Thermocouple
Display	LCD 40 x 6 characters or 320 x 64 pixels
Measuring range	- 15 to 50 °C
Accuracy	±0.1 °C

LEAF TEMPERATURE MEASUREMENT

Sensor type	Infrared sensor
Measuring range	- 10 to 50 °C
Accuracy	±0.3 °C

Applications

- Ecologists use the CI-340 to measure seasonal changes in photosynthetic rate as a response to temperature shifts.

- Agronomists use the CI-340 to measure water status of crop plants across related genotypes.

- Horticulturalists use the CI-340 to measure changes in leaf physiology as a result of drought stress.