ADC:OSI 1 FL

Portable Pulse Modulated Fluorometer

"A truly filled portable pulse modulated Chlorophyll Fluorescence instrument"

- Pulse modulation measurement technique
- Truly portable
- User friendly
- Integral data storage
- Dark adaption and steady state analysis

Pulse Modulation Technique

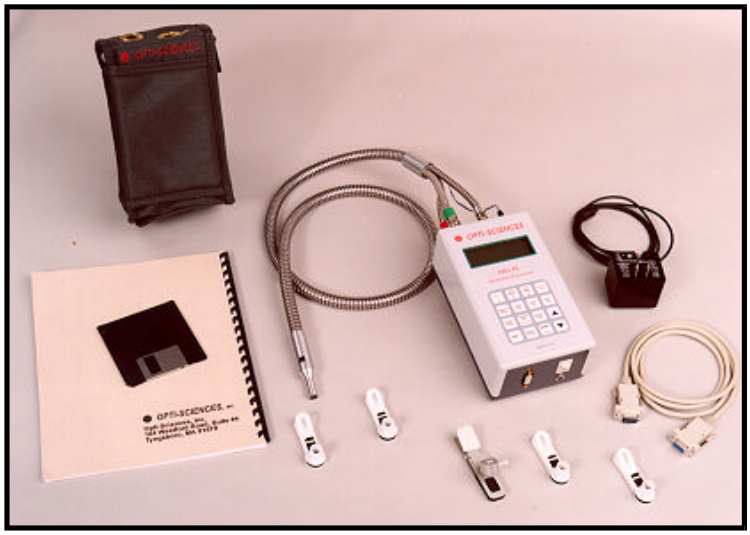
Over the last decade, Chlorophyll Fluorescence has been increasingly used as an experimental technique for the detailed investigation of environmental plant stress. Fluorescence research using the pulse modulation principle has significantly enhanced our understanding of the photosynthetic apparatus.

The pulse modulation technique allows the researcher to quickly assess the efficiency of the Photochemical Energy Conversion (Yield), and provides detailed analysis Of the photosynthesis process including Photoquenching Coefficiences and Electron Transport Rate. Pulse modulation analysis is conducted under ambient light conditions with no need for pre-darkening of the leaf prior to induction.

The pulse modulated fluorometer has become a routine research tool in many Plant Physiology laboratories throughout the world. With the introduction of the ADC:OSI 1FL, pulse modulated experimentation can now be conducted in the field with a truly portable instrument.

Field Portable

The compact, battery operated ADC:OSI 1FL is both portable and user friendly. Dedicated test modes allow the rapid measurement of both steady state (Yield) and dark adapted (Fv/Fm) parameters without the traditional complex instrument programming requirements.



Featuring a high intensity saturating pulse beam with a low intensity modulation beam, fluorescence yield remains unchanged and allows dark adapted fluorescence (Fo) to be measured to a high degree of accuracy.

The ADC:OSI 1FL is a self contained, compact instrument which does not require a personal computer for standard programming or operation. Using the dedicated function keypad, the versatile ADC:OSI 1FL can be easily configured for a variety of fluorescence experiments. Measured parameters are clearly presented on the large, integral liquid crystal display. Up to 2,500 data sets and 45 minutes of induction curve data can be stored in internal memory. Stored data can be downloaded via the RS232 port.

Real Time Induction Graphs

With an optional software package, the ADC:OSI 1FL can be used in combination with a personal computer to provide real time fluorescence induction kinetic graphs.

An optional leaf clip for measuring PAR and leaf temperature is available.

Technical Specifications

Items supplied:	Control unit, remote sensing unit, one open frame and five dark adapted leaf clips, 12V 1.2Ah battery, battery charger, carrying case, serial cable, interface software and instruction manual.
Measured parameters:	Fo, Fm, Fv, Fv/Fm, Fs, Fms, Ft, Y, ETR, Optional clip PAR and leaf temperature.
Excitation sources:	
Saturation pulse:	35 Watt halogen lamp with 690nm shortband pass filter. Maximum intensity 15,000µmol $m^{-2}s^{-1}$
Modulated light:	660nm LED with 690nm short band pass filter. Intensity adjustable from 1.0µmol $m^{-2}s^{-1}$
Optional modulated light:	450nm LED source. Intensity adjustable from 0 to 0.4µmol $m^{-2}s^{-1}$
Detector and filters:	A PIN photodiode with a 700 - 750nm bandpass filter.
Detection method:	A modulated spectrum synchronous carrier lockin amplifier.
Sampling rate:	Auto switching from 10 to 1,000 points per second depending on test phase.
Test duration:	Adjustable from 2 seconds to 45 minutes.
Storage capacity:	Up to 2,500 data sets and 6 traces totaling 45 minutes of recordings at 10 points per second.
Digital output:	RS232 port.
User interface:	
Display:	EL backlit 20 x 4 character super twist LCD.
Keypad:	16 key dedicated function.
Power supply:	Internal 12V, 1.2Ah rechargeable sealed lead acid battery.
Battery life:	Up to 6 hours of continuous operation.
Leaf clips:	
Standard:	Open frame 60° probe insert. Five dark adapted cuvettes.
Optional:	PAR / Temperature clip.
Operating range:	5 to 45°C.
Dimensions:	7cm x 11cm x 19cm
Weight:	2 kg

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