



OS5p



Portable pulse modulated chlorophyll fluorometer

A new ultra compact and powerful pulse modulated fluorometer



- ◆ Weighs only 1.4kg
- ◆ 20 hours battery life
- ◆ Exceptional experimental control
- ◆ Large backlit graphic display
- ◆ User-friendly
- ◆ Versatile data storage

Changing your perception of modulated fluorometers

If you have a perception that pulse modulated fluorometers always have to be bulky, heavy and complex devices, ADC BioScientific would like to introduce you to the ultra compact OS5p Field Portable Fluorometer.

Pulse modulation is a well established and proven technique for the detailed analysis of plant stress and investigations into the photosynthesis process. This experimentation can be conducted under ambient light or dark adapted conditions.

True field portability

The new OS5p is the latest addition to the ADC:OSI range of Chlorophyll Fluorometers. Weighing just 1.4kg and offering 20 hours of continuous use, the battery operated OS5p is set to offer new levels in portability and performance for a field pulse modulated fluorometer.

Both ambient light and dark adaptation parameters may be determined by the OS5p including F_o , F_m , F_v/F_m , Y , F_t , F_{oq} , F_{ms} and OJIP transients. Photochemical and non-photochemical quenching coefficients such as q_P , q_N and NPQ can also be calculated.

Outstanding experimental performance

The OS5p offers researchers exceptional control over each experiment. This includes aspects of the saturating pulse and a sampling rate of up to 1 million samples a second.

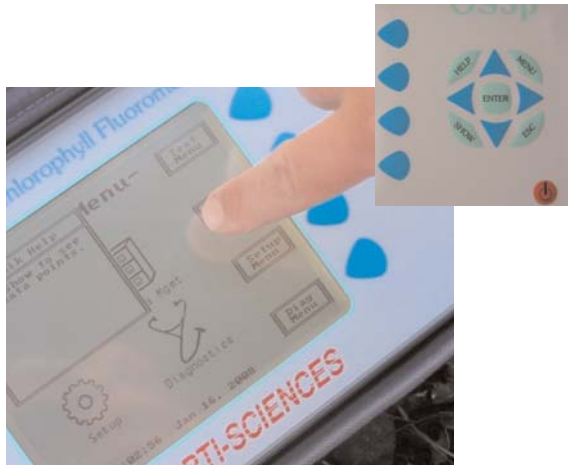
Chlorophyll fluorescence is excited by two user selectable channels centred at 660nm and 450nm and detected in the 710nm - 750nm region. A 735nm LED with a far red filter is supplied for such applications as plastoquinone pool oxidation and Fod determinations.

Both a high-intensity white light (350nm - 700nm) and a power conserving white LED are available to drive and saturate the plant photosystems.



User-friendly

The OS5p has been designed to be very user-friendly. Full programming and operation is achieved by a series of multi-use soft keys presented on a large backlit display. No PC is required. Calculated parameters and real time fluorescence transients are displayed on a daylight variable graphic screen.



Data can either be stored in the large 1Gb internal memory, capable of storing thousands of test data sets and traces, or on removable smart memory cards.

The OS5p features USB, Ethernet and RS232 connectivity.

The OS5p is supplied as standard with an open body cuvette, 10 dark adaption cuvettes and a carrying case.



Optional accessories include:

Par clip with integral leaf temperature sensor.



Parameters

Y: Yield of quantum efficiency

Fo: Non-variable fluorescence

Fm: Maximal fluorescence

Fv: Variable fluorescence

Fv/Fm: Photochemical efficiency

Fod: Depression of Fo value

Fms: Maximal fluorescence under steady state conditions

Fs: Fluorescence under steady state condition (prior to saturation pulse)

qP: Photochemical quenching

qN: Non-photochemical quenching

NPQ: Non-photochemical quenching calculated with Fm

Ft: Terminal fluorescence value

ETR: Electron transport rate (with optional PAR sensor)

OJIP: Fast kinetic transients

PAR: Photosynthetic Active Radiation (with optional PAR sensor)

T: Leaf temperature (with optional PAR sensor)

Provisional specification

Excitation sources:

Saturation pulse: Two adjustable sources both with 690nm filter.

Halogen 0-15,000 $\mu\text{mol m}^{-2} \text{s}^{-1}$,

LED 0-4,500 $\mu\text{mol m}^{-2} \text{s}^{-1}$

Modulating light: Two channel 660nm and 450nm LED.

Actinic light: Adjustable sources.

LED 0-3,000 $\mu\text{mol m}^{-2} \text{s}^{-1}$.

Halogen 0-6,000 $\mu\text{mol m}^{-2} \text{s}^{-1}$.

Far red: Intensity adjustable 735nm LED.

Detection method: Pulse modulation.

Detector: PIN photodiode with 700-750nm filter.

Modulation frequency: 0.025KHz - 40KHz and up to 1 million/second for OJIP determination.

Test duration: Adjustable 2 seconds - 45 minutes.

Data storage: 1Gb internal memory for thousands of data sets and traces. Removable smart cards.

Digital output: Smart cards, Ethernet, USB & RS232.

Display: 320 x 240 super-twist LCD, with back light.

Keyboard: 4 software defined soft keys.

Battery: Rechargeable 71 Watt-hour Lithium-Ion cell providing up to 20 hours of continuous operation.

Dimensions: 13cm x 18cm x 14cm

Weight: 1.4kg



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