



OS5p+



Advanced portable modulated chlorophyll fluorometer

The most advanced portable pulse modulated chlorophyll fluorometer for the detection and measurement of most types of plant stress



- **Widest range of automated testing protocols** (Inc: Fv/Fm, Yield Y(II), OJIP, Rapid light curves and Quenching protocols)
- **Accurate and reliable experimental data** (Inc: Multi-flash Fm' correction)
- **Truly portable, ultra compact and field rugged**
- **Touch screen, colour, graphic display**

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+ Advanced portable modulated chlorophyll fluorometer.

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

The OS5p+ can perform a wide range of automated plant stress protocols including Fv/Fm, Yield Y(II), OJIP, Rapid light curves and Photochemical and non-photochemical quenching. More than any other portable chlorophyll fluorometer.

True field portability

The new OS5p+ is the latest addition to the OS range of Chlorophyll Fluorometers. Weighing just 1.4kg and offering up to 12 hours of continuous use, the battery operated OS5p+ sets new standards in portability and performance for a field pulse modulated chlorophyll fluorometer.

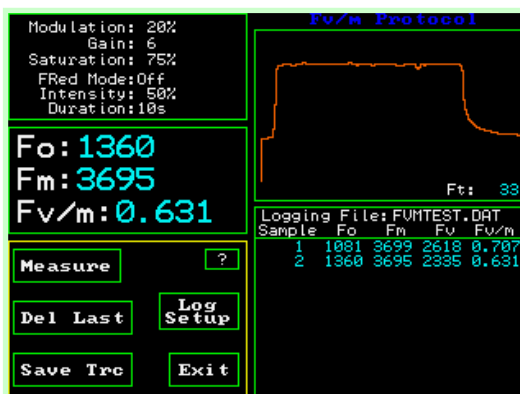
Easy to use

Plant stresses can be easily analysed using the OS5p+ and depending on the stress test used, analysis can also be fast.

The OS5p+ has been designed with the highest degree of automation. Full programming and operation is achieved by a series of simple menus on a large backlit, colour, touch screen display.

Many stress tests are pre-programmed into the OS5p+, greatly simplifying the experiential set up. These routines can be easily changed by the researcher in the field. No separate PC device is required.

Both calculated parameters and real time fluorescence transients are presented on the colour, graphic display.



Large integral data storage

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

For the easy downloading of data the OS5p+ features USB connectivity.

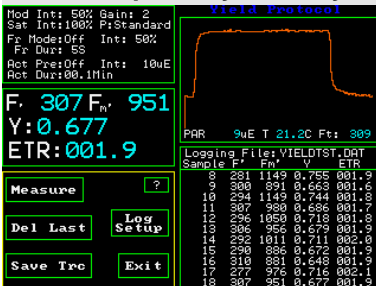
The OS5p+ is supplied as standard with an open body cuvette, 10 dark adaption cuvettes, PAR clip and a durable ABS carrying case.

Fluorescence test protocols

The OS5p+ offers the widest range of automated fluorescence test protocols. This includes:

Fv/Fm: Photochemical efficiency or Maximum quantum yield. Truly accurate Fm and Fm' determined by 8 point 25 millisecond averaging. Robust and popular, fast dark adapted test. Reduces with stress.

Quantum photosynthetic yield Y(II):



Light adapted test for the measurement of PSII during photosynthesis. Sensitive for most types of plant stress. Reduces with plant stress.

Improved accuracy using Multi-flash Fm' correction when experimenting in high actinic light environments. Improved accuracy using the PAR clip to account for changing light and temperature conditions.

OJIP: Both classical Strasser protocol and new Vrendenberg quenching protocol.

Rapid light curves: For analysing the light characteristics of samples. Ideal for canopy or aquatic experimentation.

Quenching protocols: The OS5p+ features the widest range of quenching protocols available.

- * Hendrickson lake model protocol with NPQ.
- * Kramer lake model protocol.
- * Puddle model protocol.
- * Quenching relaxation protocol.

All included as standard.

For simultaneous gas exchange and chlorophyll fluorescence measurements the OS5p+ may be combined with the ADC LCi-SD or LCpro-SD portable photosynthesis systems.

PAR clip



Photosynthetic Yield Y(II) varies not only with different types of plant stress, but also with light and temperature. It is therefore important to use the supplied PAR clip to achieve reliable results.

The PAR clip features high quality PAR and leaf temperature sensors. It is designed with an underside opening mechanism, to prevent the weight of the fibre optic cable opening the PAR clip unexpectedly.

The OS5p+ offers the most reliable field measurements as an internal, ultra stable, actinic light source supplies constant light levels between 0-3000µE. There is no requirement to use an external light source.

Provisional specification

Excitation sources:

Saturation pulse: Adjustable source with 690nm filter

LED 0-12,000 µmols m⁻² s⁻¹

Modulating light: Two channel 660nm and 450nm LED

Actinic light: Adjustable sources.

LED 0-3,000µmols m⁻² s⁻¹.

Far red: Intensity adjustable 735nm LED

Detection method: Pulse modulation.

Automated setting of modulated light intensity:

Adjustable On/Off

Automated Multi-Flash Fm' correction for all light adapted protocols: Adjustable On/Off

Detector: PIN photodiode with 700-750nm filter

Sampling rate: Auto-switching from 1 to 10,000 points per second, dependent on phase of test

Test duration: Adjustable 0.1 seconds - 12 hours

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

Digital output: SD cards and USB

User interface: Colour, menu driven, graphic touch screen display (114mm x 89mm)

Battery: Rechargeable 12V nickel metal hydride battery providing up to 12 hours of continuous operation

Dimensions: 18cm x 14cm x 8cm

Weight: 1.36kg



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