

Configurations

The ALGAE-Wader and ALGAE-Wader Pro have been designed for *in situ* use. A single cable connects the sensor to the Hawk handheld display and logging unit, which is charged via USB, or powered using disposable batteries. Key Chlorophyll parameters are presented on the screen. Red, Amber, Green (RAG) data thresholds can be programmed to alert the user when signals exceed user-set thresholds. Data is recorded onto a 2 Gbyte memory card and can be download via a USB cable.

The TriLux is factory configured to one of the following three options:

- Chlorophyll *a*, Turbidity and Phycocyanin (freshwater)
- Chlorophyll *a*, Turbidity and Phycoerythrin (marine)
- Chlorophyll *a*, Phycoerythrin and Phycocyanin (coastal)

Specification

UniLux & TriLux Fluorometers

Size	26.5 x 105 mm (140mm including connector)
Weight	100 g
Depth rating	600 m

UniLux Performance

	Chlorophyll <i>a</i> (in acetone)
Sensitivity	0.01 µg/l
Range	0.01 – 100 µg/l

TriLux Performance

	Chlorophyll <i>a</i> (in acetone)	Turbidity
Sensitivity	0.02 µg/l	0.1 FTU
Range	0.02 – 100 µg/l	0.1 – 100 FTU

Hawk handheld display and logging unit

Display	320 x 240 pixel qVGA backlit LCD
Display size	70 x 50 mm
Size	210 x 110 x 45 mm
Weight	500 g
Memory capacity	2 Gbyte
Battery duration	5 hours continuous use
IP rating	IP68
Operating temperature	-2 °C to 40 °C
Storage temperature	-40 °C to 70 °C

Contact us today to see how we can help you



ALGAE-Wader and ALGAE-Wader Pro



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ALGAE-Wader systems collect, log and instantly display key Chlorophyll data for *in situ* water quality monitoring.



Applications

- Environmental and water quality monitoring
- Taste and odour issues
- Early warning bloom detection
- *In situ* Chlorophyll and algae class studies
- Monitoring spatial and temporal changes in algae class composition

Clarity in Water



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What can the ALGAE-Wader do for you?



How does it work?

★ Features

- Real-time display of up to three, key Chlorophyll parameters in numerical, or graphical form
- High sensitivity data collection
- User set Red, Amber, Green (RAG) data thresholds on an easy read, touch screen display
- Position and time stamping of recorded data
- Simple, single touch data logging (2Gbyte storage capacity)
- Uses rechargeable or disposable batteries

Introduction

The new **ALGAE-Wader** and **ALGAE-Wader Pro** systems provide real-time display of key Chlorophyll parameters necessary for water quality monitoring. Data are collected using our highly sensitive range of miniaturised LUX submersible sensors and are displayed on the Hawk handheld display and logging unit.

As well as being very sensitive, our fluorometer sensors are optimised to provide low noise results. Warning alarms, sampling rates and the dynamic range of the sensor are user adjustable.

Hawk is designed for users needing to carry out spot check measurements and wanting to save data for analysis at a later date. The **touchscreen** allows the user to select parameters to be viewed in graphical form, and to log data when necessary. Hawk is packaged in **durable casing** and is **IP68** rated to allow for *in situ* use whether that be mid-stream, or in a water treatment plant.

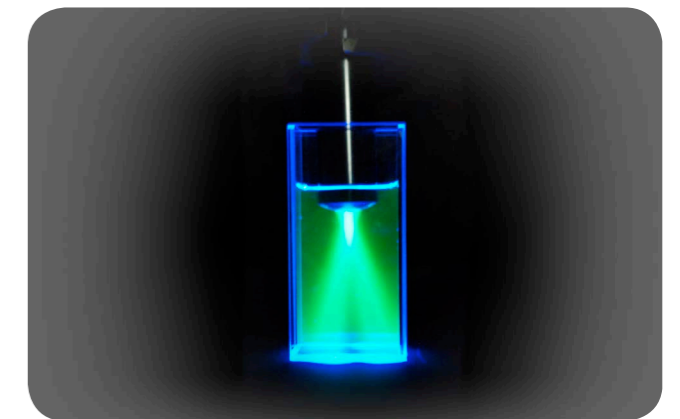
Chlorophyll *a* is a fluorescent compound required for photosynthesis and is present in all algae species. The Chlorophyll *a* molecule absorbs blue light and re-emits a fraction of this energy as red fluorescence. Fluorescence intensity is directly proportional to concentration, so by measuring Chlorophyll *a* fluorescence the levels of algae in the environment can be assessed. The technique is widely recognised as one of the most sensitive detection methods available.

ALGAE-Wader's UniLux fluorometer uses blue light to excite Chlorophyll *a* directly and measures the emitted red fluorescence. Concentrations are reported in units of $\mu\text{g/l}$ and are standardised using solutions of Chlorophyll *a* dissolved in Acetone.

ALGAE-Wader Pro's TriLux sensor provides algae class information. It operates on the principle that energy, absorbed by different light harvesting pigments which vary from species to species, is rapidly transferred to Chlorophyll *a* where it is used to initiate a cycle of photosynthesis. Blue, green and amber excitation wavelengths are offered with

Chlorophyll *a* fluorescence detected at a single emission wavelength centred on 685nm. There is also the option of replacing either the green or amber channels with Turbidity.

Green light excites Phycoerythrin pigments associated with seawater Cyanobacteria, while amber light excites the Phycocyanin pigment found in freshwater Cyanobacteria. Therefore by looking at the different contributions to Chlorophyll *a* fluorescence from each excitation wavelength it is possible to detect a change in algae composition and detect the early onset of a cyanobacterial bloom.



Touch screen display



GPS position and time logged



2gb storage capacity

i ALGAE-Wader and ALGAE-Wader Pro

The **ALGAE-Wader** comprises a UniLux Chlorophyll *a* fluorometer, a 5-metre cable (longer cables are available) and the Hawk portable display, logger and power unit.

The **ALGAE-Wader Pro** comprise a TriLux fluorometer, a 5-metre cable (longer cables are available) and the Hawk handheld display and logging unit.