

ALGAE-Station and ALGAE-Station Pro



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ALGAE-Station systems collect, log and instantly display key Chlorophyll data necessary for the management of water treatment processes.

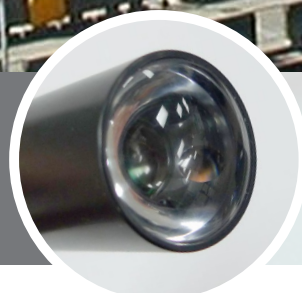


Applications

- Continuous monitoring in water treatment plants
- Taste and odour issues
- Early warning bloom detection
- Monitoring spatial and temporal changes in algae class composition
- Long-term water quality monitoring



What can the ALGAE-Station do for you?



★ Features

- Real-time display of up to three, key Chlorophyll parameters
- High sensitivity data collection
- User set alarms feature on an easy-read, touch screen display
- Backlit for dimly lit, treatment plant environments
- Automated data logging (2Gbyte storage capacity) and download via USB/removal of SD card
- In-line flow-through operation

Introduction

The new **ALGAE-Station** and **ALGAE-Station Pro** systems provide real-time display of key Chlorophyll parameters necessary for the management of the water treatment process. Data is collected using our highly sensitive range of miniaturised, LUX submersible sensors and are then displayed on the permanently installed Watchkeeper wall mounted unit.

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

Watchkeeper has a **touch screen**, allowing the end user to set alarms for each parameter with ease. The unit is packaged in **durable casing** and is **IP67 rated** to allow for permanent installation in a wet, treatment plant type environment.

When combining a LUX with the Watchkeeper, the ALGAE-Station makes a very flexible package, catering for the needs of many different applications.



Touch screen display



Audible alarms when exceeding thresholds



2gb storage capacity



How does it work?

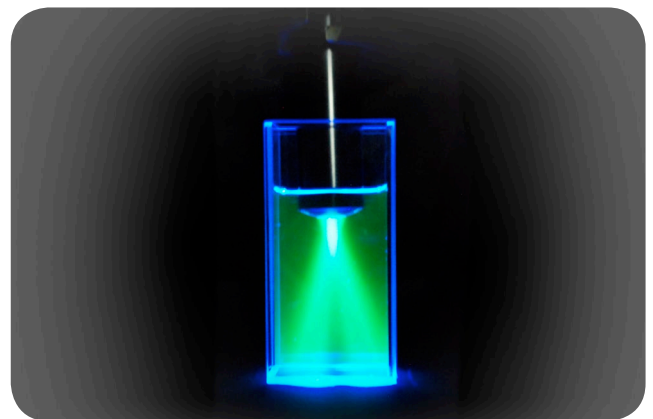
Chlorophyll *a* is a fluorescent compound required for photosynthesis and is present in all algae species. The Chlorophyll *a* molecule absorbs blue light and re-emits a fraction of this energy as red fluorescence. Fluorescence intensity is directly proportional to concentration, so by measuring Chlorophyll *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-Station'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-Station 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. By looking at the different contributions to Chlorophyll *a* fluorescence from each excitation wavelength it is, therefore, possible to detect a change in algae composition and detect the early onset of a cyanobacterial bloom.



ALGAE-Station and ALGAE-Station Pro

The **ALGAE-Station** comprises a UniLux Chlorophyll *a* fluorometer, a 5-metre cable (longer cables are available) and the Watchkeeper wall-mounted display and logger unit.

The **ALGAE-Station Pro** comprises a TriLux fluorometer, a 5-metre cable (longer cables are available) and the Watchkeeper wall-mounted display and logger unit.

Configurations

The ALGAE-Station and ALGAE-Station Pro have been designed for outdoor deployment, where the fluorometers can be deployed within a water trough or mounted in a flow-through manifold for in-line operation. A single cable connects the sensor to the Watchkeeper display and logger unit, which is powered from a 24 Vdc supply. Key Chlorophyll parameters are presented on the screen and up to **three 4 – 20 mA signals** can be accessed for data system networking. Audible alarms can be fitted and programmed to alert when signals exceed user-set thresholds. Data is recorded onto a **2 Gbyte memory card** and can be transferred by download via a USB cable, or by removal of the memory card.

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	Ø26.5 x 140 mm (including connector)
Weight	100 g
Depth rating	60 bar

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 – 150 µg/l	0.1 – 100 FTU

In-line flow through assembly

Size	Ø40 x 200 mm (including connector)
Weight	200 g
Pressure rating	2 bar
Fittings	6mm ID Hose Barb

Watchkeeper wall mounted unit

Display	320 x 240 pixel qVGA backlit LCD
Display size	70 x 50 mm
Size	200 x 110 x 60 mm
Weight	900 g
Memory capacity	2 Gbyte
IP rating	IP67
Voltage input	24 Vdc
Power	2 W @ 24 Vdc 3 W @ 24 Vdc (Pro)
Operating temperature	-20 °C to 55 °C

Contact us today to see how we can help you