

Scuba BGA buoy

A blue-green algae monitoring and alert system for improved decision-making and treatment timing



NEW!

Receive early notifications
of algal blooms

Scuba BGA for blue-green algae monitoring

The presence of blue-green algae is dangerous, so good management is necessary to prevent problems. Discover the Scuba BGA for continuous monitoring of algae growth in surface water: a floating buoy powered by solar energy. It is an independent instrument for measuring the presence of algal blooms and other water parameters. Compared to manual measuring, which often has long intervals and takes time, continuous measurement with the Scuba BGA lets you detect, and even predict, the blue-green algae sooner. This allows you to respond quickly. The buoy can be used for recreational lakes, municipal ponds and waterways, and any other place where people and pets can come into contact with the water.

Discover the Scuba BGA

- ✓ Early notification of algal blooms
- ✓ No water sampling needed
- ✓ Quick deployment
- ✓ Self-powered instrument
- ✓ Low entry costs
- ✓ Action alerts for parameters and system performance
- ✓ Also available for rental and short-term projects



The importance of measuring blue-green algae

When the days get warmer, the risk of blue-green algae increases. Blue-green algae are cyanobacteria that live on light, carbon dioxide and nutrients in the water. The presence of nutrients in the water can increase during heavy rainfall, for example, when fertilisers for agriculture wash away in the surface water. But a sewer overflow also causes a sudden increase in nutrients, or eutrophication of the water. The presence of blue-green algae can be recognised by a blue/green floating layer in the water. This is a sign that the water quality is declining: there are more nutrients such as nitrogen and phosphorus in the water on which the cyanobacteria thrive.

Why are blue-green algae dangerous?

Health risks for humans and pets

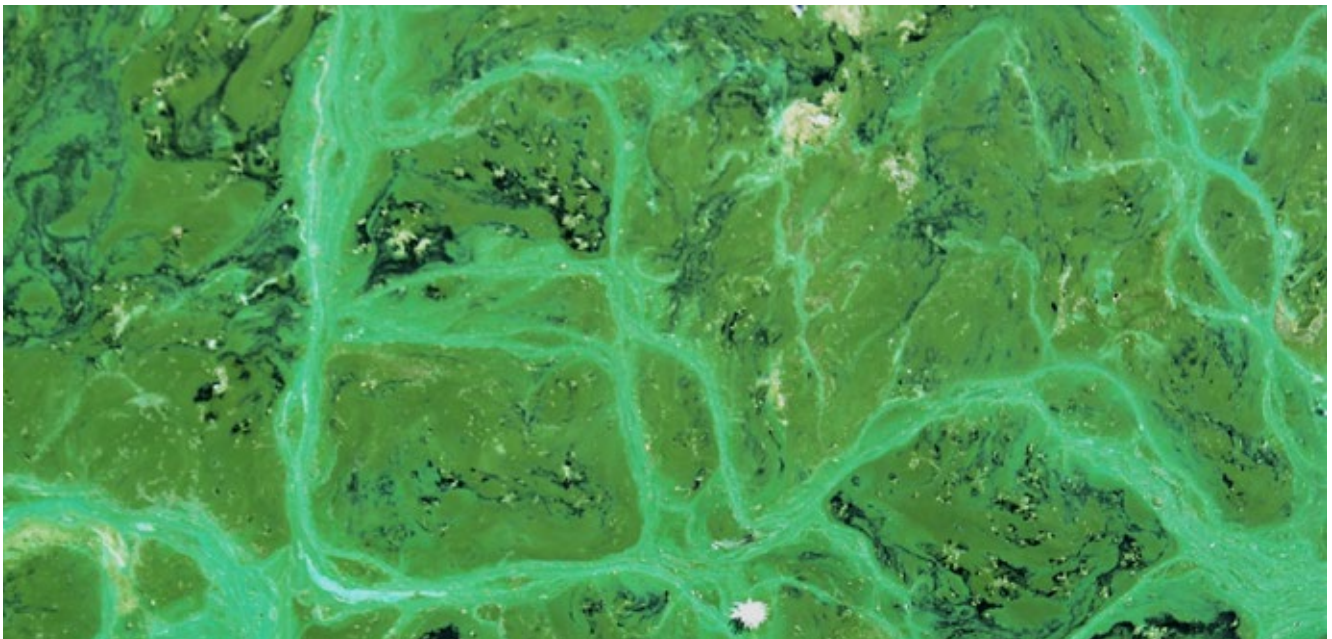
Many species of blue-green algae produce toxic substances that are harmful to humans and animals. Exposure to blue-green algae causes skin and eye irritations, possible allergic reactions, and stomach pain and diarrhoea if contaminated water is swallowed.

Economic consequences

Because of the health risks, water with blue-green algae is best avoided. However, that makes water recreation impossible. This can have major economic consequences, especially in summer. Moreover, the presence of these organisms in the water also makes the production of drinking water more complicated and expensive.

Fish mortality

The floating layer of algae also means that less sunlight can penetrate the water and reach the plants growing there, which can therefore produce less oxygen. This ultimately leads to fish mortality.



A true all-in-one system

Sensors

The Scuba BGA is designed to monitor water quality in both fresh and salt water. Its sensors monitor algae, temperature, and turbidity.



Power supply

Thanks to the integrated solar panel, the Scuba BGA is self-powered. Fully charged, it can function for 2-3 weeks without sunlight.

Sensor wiper

The buoy is equipped with a built-in sensor wiper that keeps sensors clean and functional.



Data dashboard

Track the collected data of your Scuba BGA on a powerful data dashboard. It includes a live GPS map, colour coded gauges, action alerts for early algal bloom warning, historical charts and a self-learning algorithm for analysis.

From installation to data insights

1

Install the buoy

Installation of the buoy is easy; simply place it in a waterway, connect it to an anchor and it will automatically start collecting data. The buoy measures the parameters once every thirty minutes, and transmits the data to the cloud once every two hours.

2

Have easy and real-time insights

Once the data is on the cloud, it is directly streamed onto the data dashboard, accessible from any device. Easily track the locations of your Scuba BGAs on the live GPS map; get clear insights into the sensor parameters on colour coded gauges; and check the local weather forecast.

3

Get notified before algae blooms

Besides the live automatic data presentation, you can also set up customised action thresholds. Choose for which values and parameters you would like to receive a notification. After all: early detection of algal bloom enables early action.

4

Discover more advantages of the data dashboard

Data are permanently backed up and easily downloaded. In addition, a self-learning algorithm allows rapid interpretation of the water condition, and weekly status reports are generated and sent to your inbox.

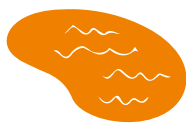


Applications

The Scuba BGA is very suitable for water quality monitoring for:



Regional water
authorities



Small
municipal
ponds



Recreational
lakes with
stagnant water



Research



Drinking water
production
facilities

Technical specifications

Sensors	Range	Resolutions
Green algae (chlorofyl-a)	0 - 200 µg/l or 0 - 2,000 RFU	0.1 µg/l or 0.1 RFU
Blue algae (phycocyanin)	0 - 1,500 µg/l or 0 - 750 RFU	0.1 µg/l or 0.1 RFU
Turbidity	0 - 200 NTU	0.1 µg/l or 0.1 RFU
Ambient light (PAR)*	0 - 2,000 µE/m ² /sec	0.1 µE/m ² /sec
Water temperature	0 °C - 50 °C, resolution 0.1 °C	0.1 °C
Air temperature	0 °C - 50 °C, resolution 0.1 °C	0.1 °C
GPS coördinates	X and Y	2.5 m
Feature	Specification	
Measure frequency	1x every 30 minutes	
Transmission frequency	1x every 2 hours	
Battery	4.2 V, life time 3 years	
Power Supply	Solar panel 4.3 Watt**	
Housing	Delrin	
Diameter	35 cm (14 inch)	
Hight	18 cm (7 inch)	
Weight	3.6 kg (8 lbs)	
Data transmission	Via GPRS (2G/3G/4G) (integrated modem)	
Operating temperature	-2 °C to + 45 °C	
Storage temperature	-10 °C to + 50 °C	
Putting into operation	Push button and green LED lamp	

* Photosynthetically Active Radiation

** The buoy can work for 2 to 3 weeks without sunlight from 100% battery capacity



Accessories

To protect, anchor and calibrate the Scuba BGA buoy, the following accessories are available.

Article number	Accessory	Description	Specifications
181170	Accessory set	A set for the protection and anchoring of the Scuba BGA buoy. It contains a navigation buoy, stainless steel mounting wire with clips, an anchor rope and a weight bag.	
18117001	Navigation buoy	This orange buoy with hard case and reflectors makes sure your Scuba BGA buoy is clearly visible in the water.	ø 60 cm 2.5 kg
18117002	Stainless steel mounting wire with clips	Firmly attach the navigation buoy to your Scuba BGA buoy with mounting wire and clips.	4 x 50 cm wire 4x clips 4x D-clasps
18117003	Anchor rope	Connect the Scuba BGA buoy to a weight bag with an anchor rope.	30 m
18117004	Weight bag	Anchor the Scuba BGA with a weight bag.	max. 16 kg
181181	Replacement brush	An easy-to-install brush with mounting nut.	
181182	Antenna	A replacement antenna for the Scuba BGA buoy	
181183	Black bucket	Use this rubber bucket for the calibration of your Scuba BGA buoy.	7.5 l
186010	Rhodamine calibration solution	Rhodamine WT dye, concentration 20%	100 ml
18180155	Turbidity calibration solution	Formazin, 4.000 NTU	1 l



Nijverheidsstraat 9,
6987 EN Giesbeek
The Netherlands

T +31 (0) 313 880 200
E info@eijkelkamp.com
I royaleijkelkamp.com