

3S-BGA Blue Green Algae Sensor

Compact online sensor for blue-green algae determination

APPLICATION FIELDS

- Rivers, lakes, ponds, marine surveys, aquaculture, drinking water sources and other fields of algae and phytoplankton monitoring, investigation and research.



ADVANTAGES / FEATURES

- **Compact design, sturdy build**

Great responsiveness in a small volume. The probe can be easily installed directly in tanks, ponds, reservoirs or inside the dedicated circulating vessel.

The titanium enclosure makes the sensor robust and durable even in the most challenging environments.

- **Low operating costs**

Minimum maintenance necessary thanks to the automatic cleaning wiper.

No reagents or filling solutions are needed.

- **Wide measuring range, low detection limit**

Determination range up to 300,000 cells/ml. Detection limit of 300 cells.

- **Measurement principle**

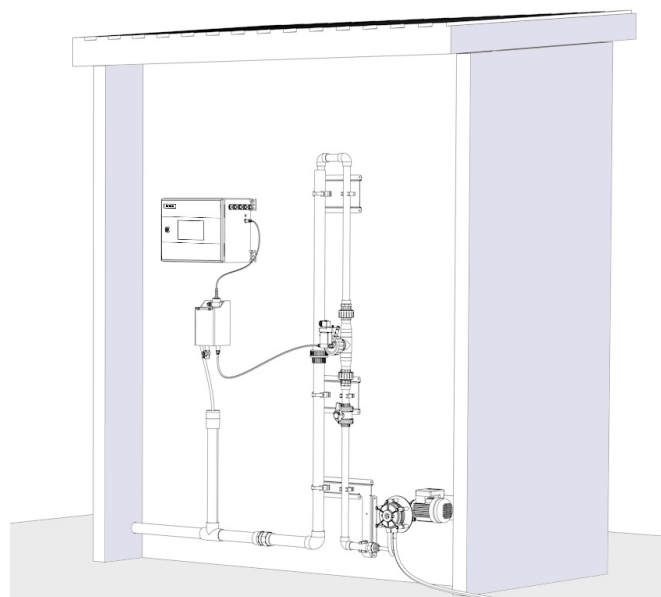
The sensor is based on the fluorescence photometric determination of chlorophyll dissolved in water. The external probe is installed in a sample reservoir and measurements are taken on the circulating sample flow.



TECHNICAL SPECIFICATIONS

Measured parameters	Blue-green algae, number of cells/ml
Measuring principle	Fluorescence photometry.
Measuring range	0 - 300,000 cells/ml
Resolution	1 cell
Lower limit of detection	300 cells
Analysis Frequency	≥ 1 s
Sample	Pressure-free vessel (probe up to 3 bar) Temperature: 5 - 50 °C (41 - 122 °F) Flow Rate: 80 to 500 mL/min Connection: 6 mm (¼-in.)
Drain	Pressure-free, atmospheric drain Connection: 12 mm (½-in.)
Dimensions (H x W x D)	∅ 45 mm, L 190.8 mm
Weight	Approx. 1 kg (2.2 lbs)
Body Material	Titanium
Power Supply	Voltage: 5 - 12 VDC Power consumption: max. 0.5 VA
Outputs	2 x 4-20 mA outputs for measured data
Alarms	2 SPDT programmable potential free relays
Operating temperature	0 - 50 °C (41 - 122 °F)
Relative Humidity	10 to 85% (indoor use only)
Installation	Wall mount (standard), bench top support or panel mount (options).
Protection Grade	IP68 (10 m underwater)

INSTALLATION EXAMPLE

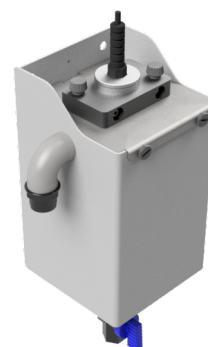


The analyzer is easily installed in a minimum amount of wall space.

In the picture are included the optional accessories:

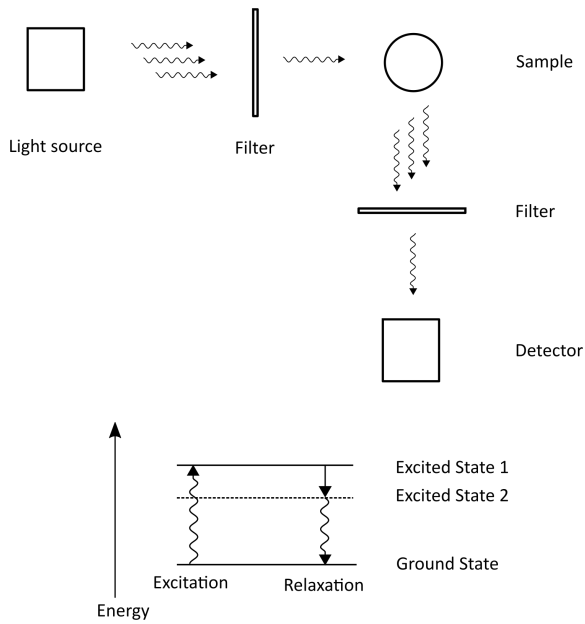
- a) 3S-PC1000 probe controller
- b) A46SF10020 - Filtration unit 100 micron 230 VAC
- c) A46SPP0000 - Sampling Pump

FAST LOOP RESERVOIR WITH PROBE



The probe is installed in the provided Fast Loop sample reservoir, protected from external light and easily accessible for cleaning and maintenance.

FLUORESCENCE SPECTROSCOPY



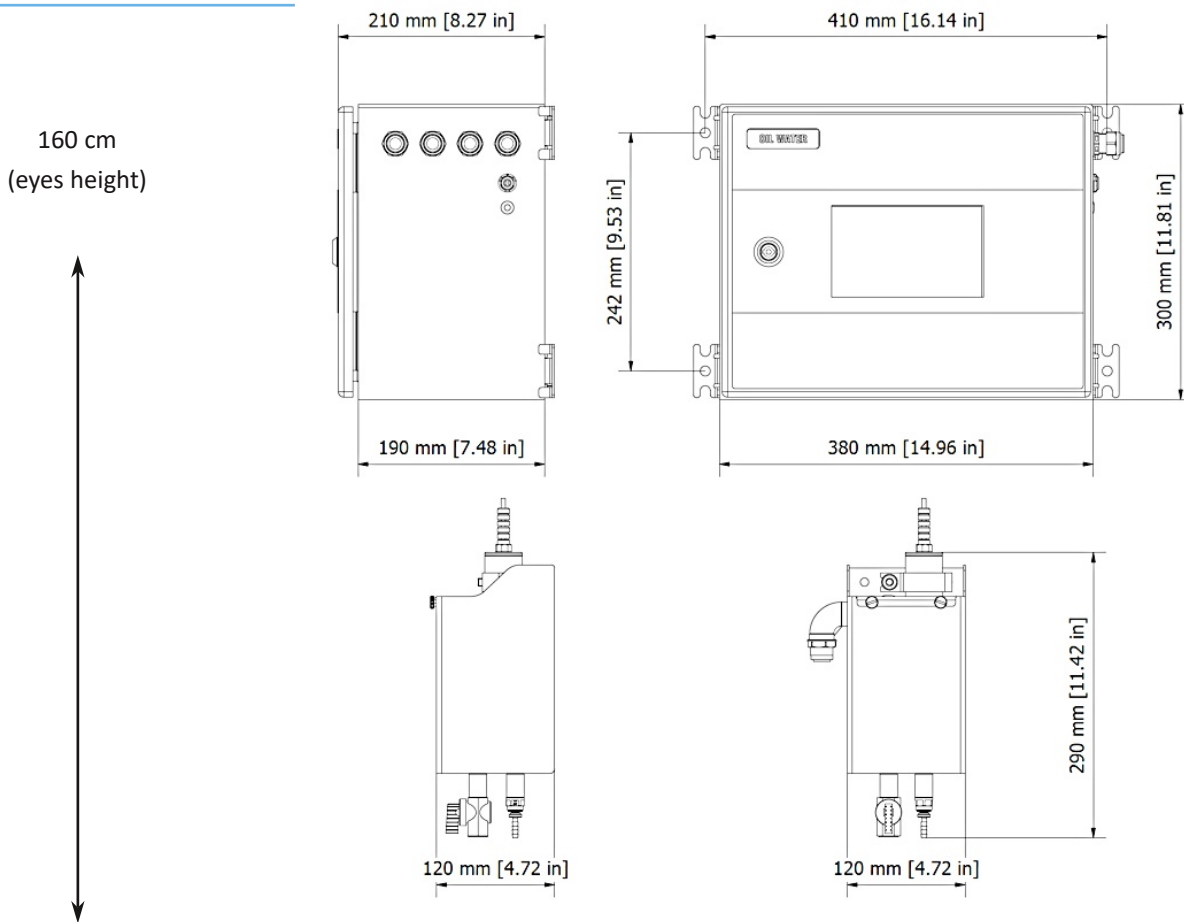
A polychromatic light source is filtered to select a specific wavelength. Molecules in the sample absorb the energy from the radiation and reach Excited State 1.

A part of the energy is released as heat and the species reach Excited State 2. The remaining energy is then released as a photon of appropriate wavelength and the molecule reaches the Ground State again.

Another filter selects a specific wavelength, characteristic of the species we want to analyze and a detector measure the intensity of this emitted radiation. The detector is thus placed at an angle to avoid interference with the incident light.

The amount of emitted radiation is proportional to the concentration of our target molecule.

TECHNICAL DRAWINGS



PRODUCT CODES

3S-BGA

Blue Green Algae Sensor Made of Titanium

3S-PC1000

Probe controller with color touch screen

A46U10035

Stainless steel continuous flow D.36 sensor holder