



GaiaXus

Beyond awareness

WATER GUARDIAN PRODUCT SHEET



Table of Contents

Water Guardian	2
Features	2
Applications	2
Data Collection	3
Operating Modes	4
Indicator	6
Indoor (Lab and Classroom) Application	8
Outdoor Application	9
Rope Example:.....	9
Mobile App.....	10
Web Portal	11
Contact Us.....	11
Education	11
Technical Specifications	12
Certification & Compliance:	12
Disclaimer	13
Happy Crab.....	14

Water Guardian

An affordable and versatile water quality monitor for education and citizen science

The GaiaXus Water Guardian is a self-contained water quality monitoring device designed to measure and report common water quality parameters. It is primarily designed for education and community engagement. It can be used in classrooms or in field-based applications, is water/weather/shock resistant, and able to withstand ordinary field conditions.



Features

- Turbidity Sensor
- Salinity Sensor
- Temperature Sensor
- Pressure Sensor
- Calculating Depth
- Chlorophyl Detection
- 24+hr Battery Life
- Blue Tooth Compatible
- Wireless Charging
- 20m Depth Tolerance

Applications

- Classroom Education
- Field Education
- Citizen Science Project
- Water Condition Mapping
- 24hr Monitoring
- Monitor Road Salt Run Off
- Find the Deep Chlorophyl Maximum (DCM)

Data Collection

Through the app, users can establish a Bluetooth connection with the Water Guardian to start a recording session. Once the sensor is recording, the user need not remain connected to the sensor—the user can re-connect to a different sensor to run multiple at once, close the app, power off the mobile device, or leave the monitoring site, and recording will continue. To stop recording and view the data, the user must simply return to the monitoring site, retrieve the sensor, and re-pair it with any mobile device with the GaiaXus app. The data then syncs from the sensor to the mobile app and will be saved to the cloud once the user is back online. Users can review and export their data through the mobile app or through the Web portal at **portal.gaiaxus.com**.

When collecting data **START the device outside of the water**. Once underwater communication to the device will be cut off.

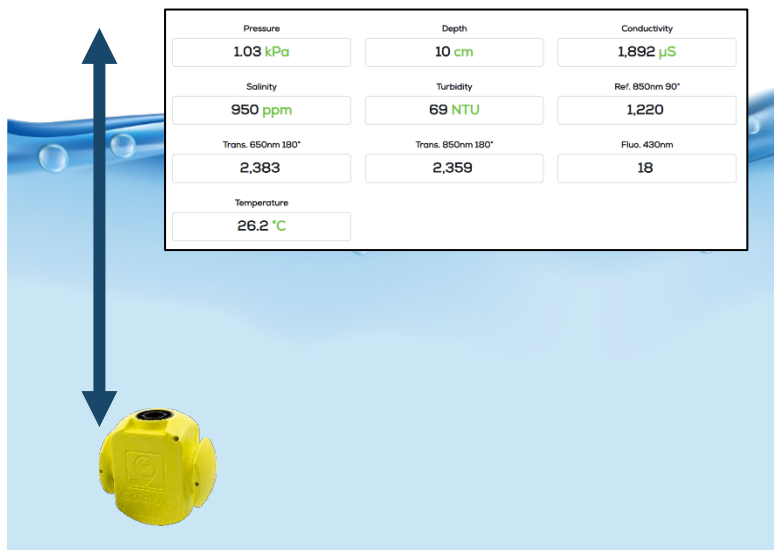
Data collection can be tailored across four operating modes

Operating Modes



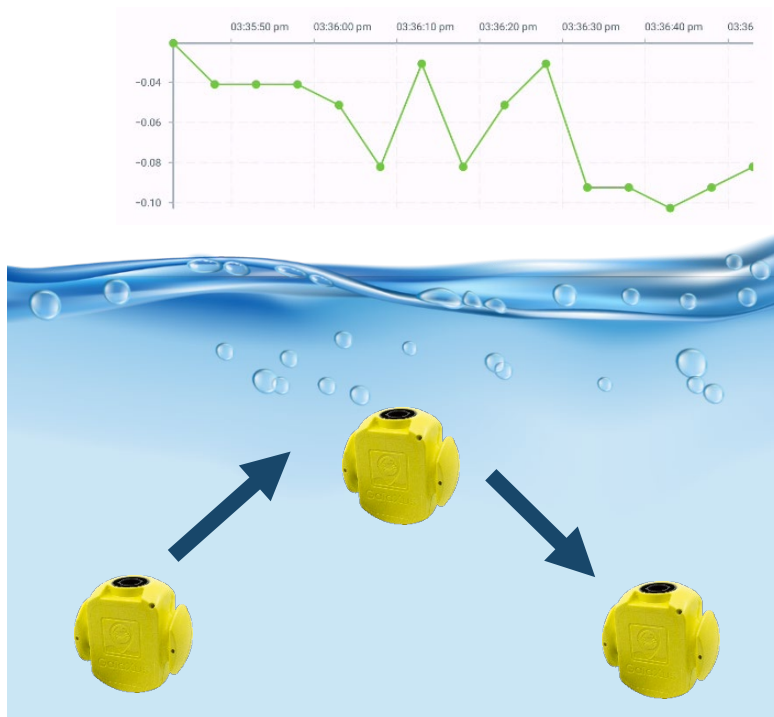
Grab Sample

Takes a single reading at greatest depth.



Continuous Recording

Records one sample every 10 seconds.

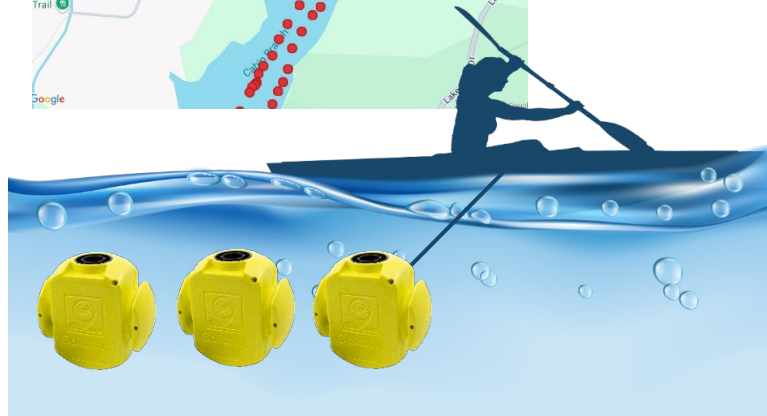




Towing

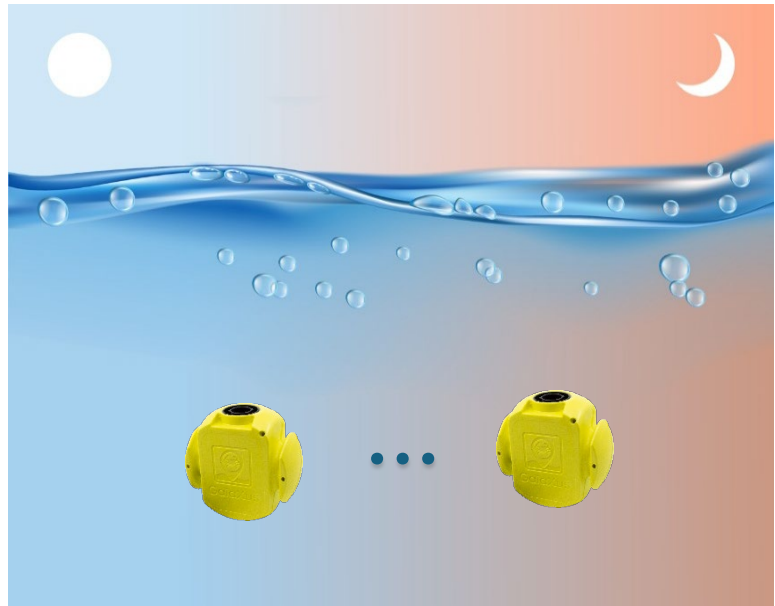
Records data at pre-set intervals and associates it with GPS coordinates from the mobile device.

Used to survey from a slow-moving watercraft (e.g. kayak). Requires the mobile device to be present with the operator



Buoy

Allows the system to record water quality data at set intervals ranging from 1 minute to 60 minutes at a single position.



Indicator

The GaiaXus Water Guardian is equipped with an indicating LED to inform the user the current state of the device.



Green Flashing: Standby



Green Breathing: Charging



Blue Breathing: Connected via Bluetooth to mobile app



GaiaXus
Beyond awareness



Purple Flashing: Recording data and **NOT** connected to an app via Bluetooth



White Flashing: Recording data and connected to an app via Bluetooth



Red Flashing: Low Power, please place on charger

Indoor (Lab and Classroom) Application

The device may be used in lab environments either through large sample buckets or small samples poured directly into the channel. To pour directly into the channel fit a #3 size rubber cork into one end of the device and place onto a spill stand. Spill stands may be ordered from the GaiaXus shop: <https://gaiaxus.com/products/bench-kit-stand-and-stopper/>

While the device is recording and connected, the app will update readings live.



Outdoor Application

The GaiaXus device is designed to be used in the field. Two wings on each side of the device are available to tie a rope (of Dia. $\leq 10\text{mm}$) or clamp onto. The device is buoyant and will float on the surface of the water without weight to sink it. To collect data:

1. Start the device
2. Place the device into the water
3. Collect the device after the desire time

If the device is not flashing place on the charger, wait a few minutes, and then connect with your Bluetooth enabled device with the GaiaXus app.

When collecting data **START the device outside of the water**. Once underwater communication to the device will be cut off.

The sinking weight required is determined by the volume and density of the material used. Roughly 250g of steel is required to sink the device.

Rope Example:



Mobile App

The Water Guardian operates with the GaiaXus mobile app, which is available on the Google Play store for Android phones, tablets, and Chromebooks. Built for hands-on outdoor experiences, the app is offline-first and includes both light and dark contrast modes

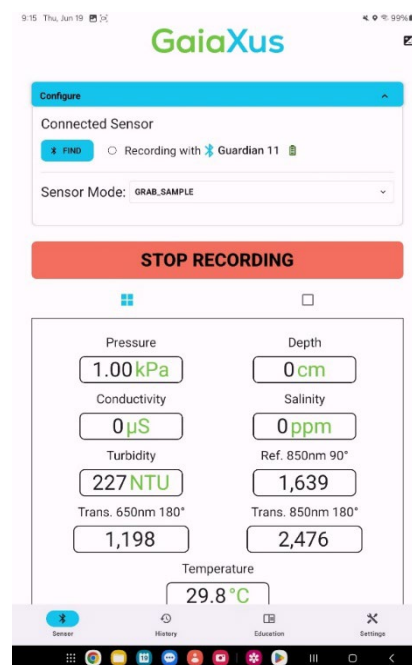
The GaiaXus mobile app is a powerful tool for water quality monitoring, designed to engage students and citizen scientists in hands-on environmental education. Paired with the Proteus sensor, the app captures key water quality data like temperature, turbidity, salinity, depth, chlorophyll, and pH, providing a user-friendly platform for field data collection, viewing, and interactive learning through educator-designed “Labs.”

While tailored for K-12 students, the app also scales for citizen scientists and researchers, enriching environmental literacy and STEM skills by combining real-world data with collaborative, problem-solving activities.

Find the GaiaXus app on the Google Play Store and download onto your preferred device that is Bluetooth compatible.

play.google.com/store/apps/details?id=com.gaiaxus

Or scan the QR code:



Web Portal



Log in to the GaiaXus Web Portal to export your data or view it alongside others on an interactive map. Teachers can also design and publish educational Labs through the Web Portal.

Upload and share your data on the GaiaXus web portal.

View data points collected by others.

Visit the portal at portal.gaiaxus.com or scan the QR code below.



Contact Us

<https://gaiaxus.com/contact/>

info@gaiaxus.com

Education

The mobile app contains built-in instructional procedures, known as Labs, to walk users through sample educational workflows or sensor calibration. Users can design their own Labs in the GaiaXus web portal, and sync these labs to the app.

Technical Specifications

Turbidity / Nephelometry	- Nephelometer operating 850nm LED at 90 degree angle - Trans-illumination turbidity measurement using a 850nm LED and a separate 650nm LED. - Range 5-400 NTU using Formazin standard.
Salinity	- Practical range 0 – 42000 ppm 5 – 200k μS $\pm$ 2% at 25°C 2000 – 42000 ppm $\pm$ 2% at 25°C
Temperature measurement range	0-40 $\pm$ 2°C
Pressure measurement range	0-100 kPa ~ 0-1000mbar $\pm$ 2mbar (0-60 °C)
Operating depth range	0-10m $\pm$ 0.02m (25°C and 0 ppm)
Chlorophyl measurement range	Qualitative detection using 650nm (red) absorbance and 430nm fluorescence.
Battery life	300 – 500 charge cycles with >60% battery capacity
Battery type	Li-ion Rechargeable battery, 3.6V, 3500mAh
Charge type	Qi © wireless power transfer, 350mA/h. ~ 9h to full charge from depleted battery
Housing	ASA
Pressure rating	1 bar (100KPa) overpressure ~ 10m depth in freshwater.
Weight	372g
Dimensions	113mm (Dia) x 65mm(H)
Sensor volume	50mL
Channel diameter	20mm

Certification & Compliance:



Disclaimer

This legal disclaimer applies to purchasers and users of GaiaXus products manufactured by or on behalf of GaiaXus and its affiliates.

The GaiaXus Photometer shall be used only by or under the supervision of adults. All activities near water can be dangerous and care should be taken to minimize the risks.

The GaiaXus Photometer reports water quality parameters within the context of environmental science. The system or generated data shall not be used in a water safety related context.

Unless otherwise expressly indicated in writing, GaiaXus products and data sheets relating thereto are subject to change without notice. Users should check for and obtain the latest relevant information and verify that such information is current and complete before placing orders for GaiaXus Products.

The characteristics and parameters of the GaiaXus product set forth in this data sheet are based on laboratory conditions and statements regarding the suitability of products for certain types of applications are based on GaiaXus' knowledge of application.

Happy Crab

