In-Situ
YOUR EYES IN THE FIELD

Instruction Sheet

Aqua TROLL 500/600 Chlorophyll-a Sensor Overview

The In-Situ Chlorophyll-a sensor measures chlorophyll levels in natural water, surface water, groundwater, produced water and aquaculture applications.

Getting Started

1 Install sensor.

Rinse sensor with clean water before use.

Remove restrictor from the instrument.

Remove sensor port plug if installed.

Lubricate o-ring at bottom of sensor.

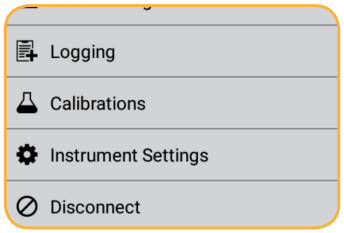
Install sensor.

Place restrictor on instrument in calibration mode.

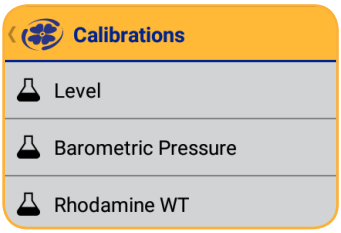
2 Calibrate and deploy.

For detailed calibration instructions, see the instruction manual or quick start guide for your In-Situ instrument.

Connect to the instrument with VuSitu or Win-Situ software.



Select Calibrations from the menu.



Choose the Chlorophyll option and follow the instructions.

Flip the restrictor into deployment mode after calibration.

Calibrating the Sensor

Calibrate the Chlorophyll sensor using one of three methods:
1. Deionized Water: Reset the zero point by performing a calibration in deionized water.
2. Rhodamine Standard: Calibrate with a Rhodamine WT standard to adjust readings of higher concentrations based on known equivalency. Follow the instructions below to prepare a Rhodamine WT standard.
3. Custom Standard or Reference: Use a reference or a custom calibration standard.

Preparing Rhodamine WT Calibration Standard

1. Start with a 2.5% Rhodamine WT solution. Pipette 1.0 mL of the solution into a 250 mL Class A volumetric flask.

2. Bring the flask to volume with deionized water. The resulting solution is 100 mg/L Rhodamine WT.

3. To obtain a 500 µg/L concentration, pipette 5 mL of the 100 mg/L solution into a 1000 mL flask.

4. Bring the flask to volume with deionized water.

Use an opaque container to store the 100 mg/L solution in a cool, dark place for up to six months.

Prepare the 500 µg/L solution immediately before use and discard after calibration. If desired, use the procedure described above to make a different concentration of Rhodamine WT, such as 1000 µg/L. Alter the volume in Step 3 according to the table below to achieve the target concentration.

Use caution when deploying in direct sunlight or environments with highly-reflective surfaces. Ambient light can interfere with sensor readings.

Concentration Guide & Expected Calibration Values

Target Concentration	100 mg/L Rhodamine WT	Expected Calibration Value at 25° C	Expected RFU Value at 25° C
0 µg/L (deionized water)	none	0	0
500 µg/L	5 mL	28.6 µg/L (ppb)	2.9
1,000 µg/L	10 mL	53.5 µg/L (ppb)	5.4

* These values are for reference only. Actual values may vary based on user-prepared standards.