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Standard Turbidity
Two Point Calibration
Video Transcript

Function

The Hydrolab Standard Turbidity sensor measures the intensity of light scattered by particles in the water sample at 90 degrees from an infrared light source and reports that value in NTUs. In order to take an accurate measurement of the scattered light, the sensor requires an unobstructed view of the water extending approximately 1 inch (25.4mm) from the optical side of the sensor.

The Standard Turbidity sensor is vulnerable to interference from ambient light, so care should be taken to minimize its effect, especially during calibration.

MiniSondes equipped with Standard Turbidity cannot be calibrated in their storage cups due to inadequate optical clearance. An opaque container large enough to submerge the sensor and provide the optical clearance is required.

Maintenance

The Standard Turbidity sensor's only maintenance requirement is to be kept clean. The optics should be cleaned before and after each deployment with a soft brush or lint free wipe and soapy water. Rinse the sensors well with clean fresh water after cleaning to prevent soap residue from building up on the lenses.

Calibration

Establish a connection to Hydras3 LT and click the '**Operate Sonde**' button. Wait for the sensors to initialize. To minimize ambient light interference during calibration, the calibration cup can be darkened by wrapping it in thick paper or cloth.

Zero Point Calibration – With the sensors pointed upwards, fill the storage cup approximately 75% with De-ionized Water or <0.1 NTU StablCal and screw the storage cap on tightly. Slowly turn the sonde over so the sensors point downwards.

Click on the '**Turbidity [NTU]**' tab.

In the box labeled '**Turbidity** [**NTU]**' enter a value of 0.3 to 0.6 depending on the cleanliness of the sensors.

Wait one minute for the readings to stabilize. Click '**Calibrate**'.

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Click the '**OK**' button in the "Calibration Successful" window.

High-End Calibration – The high-end calibration point should be a value higher than the highest value anticipated at the deployment site. The standard factory high point is 100 NTU.

Pour the De-ionized water out of the storage cup and dry the sensors again.

Gently swirl or invert the bottle of 100NTU StablCal for two to three minutes to mix the suspension.

DO NOT shake the bottle of StablCal! This will suspend air bubbles in the solution and change the turbidity of the standard.

Pour the StablCal into the storage cup until it is about 25% filled. Screw the cap on tightly and shake the sonde. Remove the cap and pour the solution out.

Gently pour StablCal into the storage cup again, this time filling the cup to 75%. Screw the cap on and gently turn the sonde over so the sensors are pointing downward.

In the box labeled '**Turbidity** [**NTU]**' enter a value of '100'.

Wait one minute for the readings to stabilize. Click '**Calibrate**'.

Click the '**OK**' button in the "Calibration Successful" window.

The Turbidity sensor is now calibrated.