



Conductivity Calibration Video Transcript

Function

The conductivity sensor measures the ability of water to conduct electricity across a set distance between graphite conductors of a known size. When the conductivity is known, the salinity and total dissolved solids can be calculated and displayed.

Maintenance

The only maintenance required is cleaning of the probe's cell and body. Debris, organisms, and other contaminants in the sensor cell will have a negative impact on the accuracy and stability of the readings. The inside of the cell should be cleaned out after every deployment with a cotton swab or small brush. Additionally, prior to calibration of conductivity, all sensors should be cleaned. Any residue or debris on the sensors may contaminate the conductivity standards and change their value, resulting in an inaccurate calibration.

Calibration

Establish a connection to the sonde with Hydras 3LT. Click the button labeled '**Operate Sonde**'. When the sonde finishes its initialization, click the '**Calibration**' tab, then click either the '**SpCond [mS/cm]**' or the '**SpCond [µS/cm]**' tab. You will see a picture of the two conductivity probes available, the current conductivity reading, the date and time, and the current temperature. The first calibration point is done with a dry sensor to establish a zero point. Rinse the sensors with de-ionized water and dry them thoroughly. Be sure the inside of the conductivity cell is dry. In the box on the Hydras screen, type a value of '0' and click '**Calibrate**'. A "Calibration successful" message will appear.

Fill the storage cup about 25% with a conductivity standard higher than the highest expected value of the water at your deployment site. Screw the cap on and shake vigorously for six seconds. Discard the standard. Fill the cup with the calibration standard again, this time so the conductivity cell is completely submerged. Wait one minute for the readings to stabilize. When the readings are stable, type the labeled value of the standard into the box and click the '**Calibrate**' button. A "Calibration successful" message will appear.

The sensor is now calibrated.

Optionally, a second standard midway between '0' and the calibration value can be used to check the linearity of the sensor. Repeat the process used for the high standard with the second standard, but do not click the calibrate button again. The reading for the second standard should be +/- 1% of the labeled value.

