

Conductivity

The Conductivity Sensor measures conductivity ($\mu\text{S}/\text{cm}$) in aqueous solutions. The ability of a solution to carry a current depends on the total concentration of dissolved ionized substances. *Conductivity divided by 2 gives the total dissolved solids (TDS) in parts per million.*

Materials List

- 1: Xplorer Datalogger (PS-2000)
- 1: Conductivity Sensor (PS-2116)
- distilled water and a soft towel



Site Selection






- Take readings when the temperature is between 0°C and 50°C .
- Sensor range is from 0 to 100,000 $\mu\text{S}/\text{cm}$. *The conductivity sensor is extremely sensitive!*

Sample Preparation

1. Locate an accessible area that is stable and clear of debris or vegetation.
2. Select the appropriate sensor range setting for the sample:

 = 0-1000 $\mu\text{S}/\text{cm}$;  = 0-10,000 $\mu\text{S}/\text{cm}$;  = 0-100,000 $\mu\text{S}/\text{cm}$.

Measurement & Recording

1. Press  to turn on the datalogger and attach the conductivity sensor.
 2. Rinse the sensor with distilled water.
 3. Submerge at least 2 cm of the sensor; gently stir the probe in the sample to ensure that there is water flowing past the probe tip. Readings should stabilize within 10 seconds.
 4. Press  to start logging data; wait 15 seconds; press  to stop logging data.
 5. Record the time of day, site notes, and conductivity in microsiemens/centimeter ($\mu\text{S}/\text{cm}$).
-  *Ultra-pure water has a conductivity range of 0.05 to 0.75 $\mu\text{S}/\text{cm}$ at 25°C ; drinking water ranges from 50 to 1500 $\mu\text{S}/\text{cm}$ at 25°C ; ocean water is about 53,000 $\mu\text{S}/\text{cm}$ at 25°C .*
6. Press  to turn off the datalogger.

Clean-up & Completion

1. Unplug the sensor from the datalogger.
2. Rinse the sensor with distilled water.
3. Dry the sensor and cord with a soft towel.
4. Replace items in the original storage bag(s).