STs Series Conductivity

Thank you for purchasing the pHionics STs Series Conductivity. By following these instructions, you will receive many years of reliable service. This quick start guide explains the basics of setup and caring for your sensor. For questions or detailed explanations, please see our manual or contact us at support@phionics.com.

Out-of-the-Box Setup

- Click here to watch our 4-minute video covering initial unboxing and setup.
- If you find damage or have any questions/concerns, please reach out to support@phionics.com.

Recommendations for Use

- The guard must be on for accurate measurements.
- Bubbles may get trapped inside the electrode guard. Align the curved channel on the inner edge of the guard with the flat of the electrode (orange) to reduce the chance of trapped bubbles. Shake the sensor underwater to remove bubbles.
- The metal housing must be in contact with the solution for stable measurements.
- Fully submerse the sensor for most accurate temperature output and automatic temperature compensation.
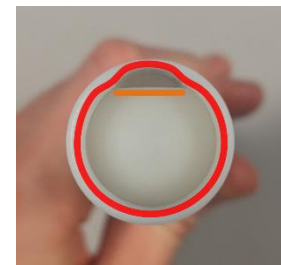- Install the shield wire for highest accuracy.

Figure 1. Electrode Guard Alignment

Calibration

The temperature sensor does not require calibration. Simply use 4 mA for 0ºC (32ºF) and 20 mA for 50ºC (122ºF) when scaling the output. For conductivity calibrations, we recommend using distilled water (0 µS/cm) and a calibration solution of higher conductivity than the expected samples.
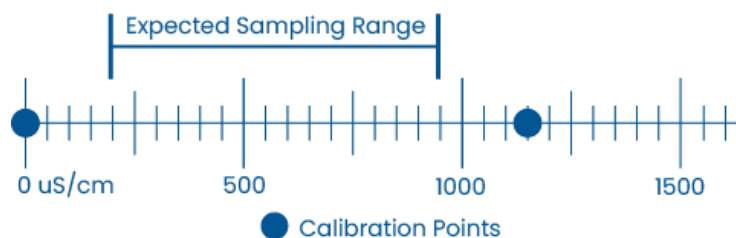
1. Connect the red and black wires to either a receiver or ammeter, and 8-40V power supply. The wires are reversible so either can supply power or output the signal.
2. Submerse the sensor in distilled water. At least part of the metal housing must contact the solution, but automatic temperature compensation is best if the sensor is

submersed fully. Let sit until the sensor and solution are at the same temperature (ideally 25°C/77°F).

3. Record the mA output, which should be 3.80-4.20 mA for 0 µS/cm. If the output is not within range, then try again with fresh distilled water. If the problem persists, please reach out to support@phionics.com.

4. Dry the sensor, then repeat steps 2 and 3 for your calibration solution of choice. If the output is drifting, stir the calibration solution.

5. Reference the temperature chart that comes with the calibration solution to determine the exact conductivity for scaling.

Maintenance

- The STs Series Conductivity is very stable but calibration should still be checked periodically. The frequency differs for each application depending on debris build-up.

- If measurements are drifting or inaccurate, take off the electrode guard and use soap and a brush to clean the electrode. We also recommend cleaning the inside of the guard.

Troubleshooting

- Please do not take apart the sensor without first contacting customer support or watching our troubleshooting video. Fragile components can be damaged if proper precautions are not taken.

- If disassembly of the sensor is recommended for your problem, always dry off the sensor beforehand and reapply grease to any O-rings exposed during the process.

- All sensor parts are easily replaceable. If damage occurs, please reach out to sales@phionics.com.

Storage

- Dry off the sensor thoroughly and place in a cool, dry location with the electrode guard in place to prevent damage.
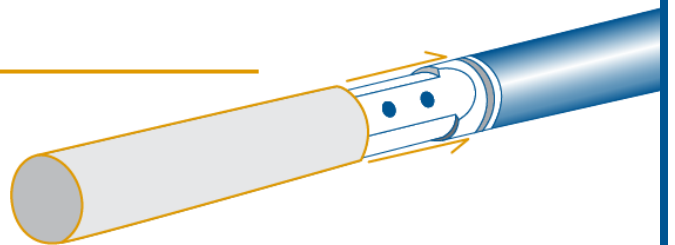
Thank you for choosing pHionics. Please reach out to our customer support if you have any questions or feedback. We are always happy to help or hear suggestions for how we can provide an even better customer experience.

Contact information:

support@phionics.com; +1 (775) 339-0565
Monday – Friday 9 AM - 5 PM PST