STs Series ORP (redox)

Thank you for purchasing the pHionics STs Series™ ORP (redox) sensor. 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

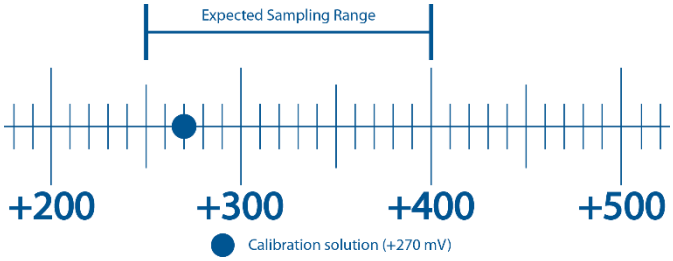
1. Click here to watch our 4-minute video covering initial unboxing and setup.
2. Save the vinyl caps to store the sensor.
3. If you find damage or have any questions/concerns, please reach out to support@phionics.com.

Recommendations for Use

- Handle with care and avoid touching the electrode bulb.
- Always keep guard on during use to protect the electrode from damage.
- At least part of the metal housing must be in contact with the solution for stable measurements.
- Fully submerse the sensor for most accurate temperature output.
- Install the shield wire for highest accuracy.

Calibration

The temperature sensor does not require calibration. Simply use 4 mA for 0°C (32°F) and 20 mA for 50°C (122°F) when scaling the output. Follow the instructions below to calibrate the ORP sensor.



1. Connect the red and black wires to either a receiver, or in series with an ammeter and 8-40V power supply. The wires are reversible so either can supply power or output the signal.
2. Submerse the sensor in the ORP calibration solution of choice. At least part of the metal housing must contact the solution for a stable output. Let sit until the sensor and solution are at the same temperature (ideally 25°C/77°F).

3. Record the mA output and reference the temperature chart of the calibration solution for exact ORP value. If the sensor output is drifting, stir the buffer or prepare new buffer and try again.
4. Scale the sensor output with 4 mA as the lowest ORP value measured by the sensor (-1000, -500, or 0 mV) and the recorded output as the calibration solution ORP value.
5. If problems occur, please contact us at support@phionics.com

Maintenance

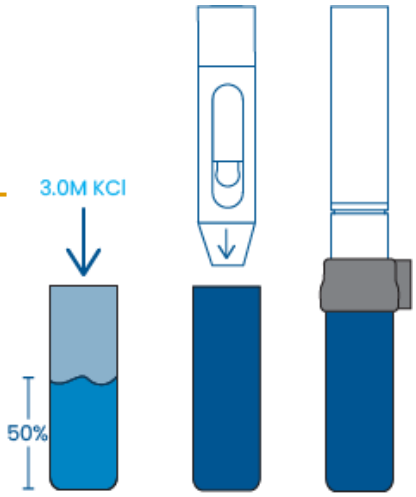
1. The calibration must be checked periodically. The frequency of calibration differs for each application depending on flow rate and debris build-up. Click here for how to create a calibration schedule.
2. Cleaning should be done whenever the output is drifting or inaccurate. Use a brush and dish soap to clean the electrode bulb and junction. Please see our cleaning guide for tough debris build-up.

Troubleshooting

1. 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.
2. 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.
3. All parts are easily replaceable. If damage occurs, please reach out to sales@phionics.com.

Storage

1. Fill the longest vinyl cap halfway with 3.0M KCl.
2. Insert the electrode (with guard on) into the vinyl cap.
3. Wrap tape at the seam between the vinyl cap and sensor for a tight seal.



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 recommendations for how we can provide an even better customer experience.