

STs Series pH



Thank you for purchasing the pHionics STs Series™ pH sensor. By following these instructions, you will receive many years of reliable service. This quick start guide explains the basics of sensor setup and care. For questions or additional information, 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

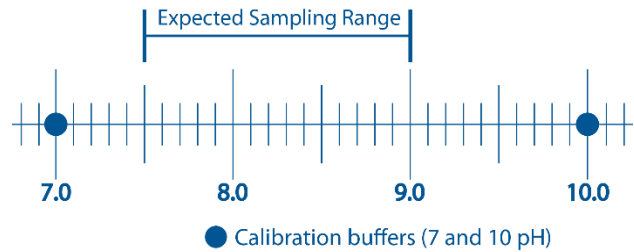
- The metal housing must be in contact with the solution for stable measurements.
- Handle with care and avoid touching the electrode bulb.
- Keep the sensor in liquid whenever possible to prevent the bulb from drying out.
- Always keep guard on during use to protect from damage and reduce debris build-up.
- Fully submerge the sensor for most accurate temperature output and automatic temperature compensation.
- 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 pH sensor:

1. Connect the red and black wires to a receiver (PLC, SCADA, etc.), 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. Submerge the sensor in 7 pH calibration buffer. Let sit until the sensor output stabilizes to less than ± 0.05 mA per minute. This takes approximately 2-10 minutes.
 - The metal housing must contact the buffer for accurate measurements.
3. Record the mA output, then reference the buffer temperature chart for exact pH. If the sensor output is drifting after 10+ minutes, then stir the buffer or prepare new buffer and try again.

- Rinse the sensor in distilled water, then repeat steps 2 & 3 using 4 or 10 pH buffer, depending on the expected sample range.
- Input the recorded mA and pH values into your monitoring system.



Maintenance

- Calibration must be checked periodically. The frequency of calibration depends on flow rate, debris build-up, and other factors in each application. [Click here for how to create a calibration schedule.](#)
- Cleaning is recommended whenever the output is drifting or inaccurate. Do not clean with anything that may scrape the glass bulb. Please see [our cleaning guide](#) for more information.

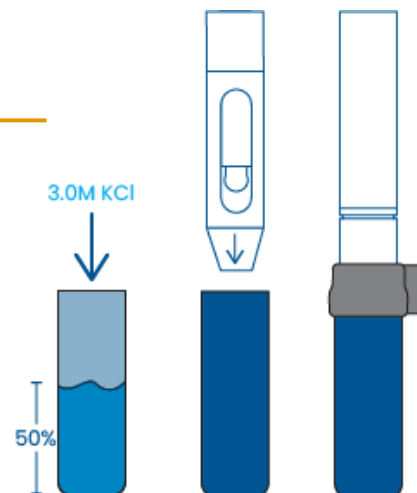


Troubleshooting

- Do not take apart the sensor without first contacting customer support or [watching our troubleshooting video](#). Fragile components may 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 exposed O-rings.
- All parts are easily replaceable. If damage occurs, please reach out to sales@phionics.com.

Storage

- Fill the longest vinyl cap halfway with 3.0M KCl.
- Insert the electrode (with guard on) into the vinyl cap.
- 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 to create an even better customer experience.

Contact information:

support@phionics.com; +1 (775) 339-0565

Monday – Friday 9 AM – 5 PM PST