

# 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 setup and caring for your sensor. For questions or detailed explanations, please see [our manual](#) or contact us at [support@pHionics.com](mailto: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](mailto:support@pHionics.com).

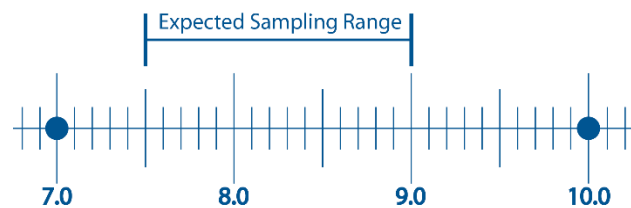


## Recommendations for Use

- Handle with care and avoid touching the electrode bulb.
- Keep the sensor in solution whenever possible to prevent the bulb from drying out.
- Always keep guard on during use to protect from damage and reduce debris build-up.
- At least part of the metal housing must be in contact with the solution for stable measurements.
- 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 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. Submerge the sensor in 7 pH calibration buffer. 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 and reference the buffer temperature chart for exact pH. If the sensor output is drifting, stir the buffer or prepare new buffer and try again.
4. Rinse the sensor in distilled water, then repeat steps 2 and 3 for your calibration buffer of choice (either 4 or 10 pH buffer solution).
5. If problems occur, please contact us at [support@phionics.com](mailto:support@phionics.com)

## Maintenance

1. 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. For general cleaning, soak the electrode in 0.1M HCl for up to 20 minutes. Do not use a brush or anything else that may scrape the glass bulb. Please see [our cleaning guide](#) if 0.1M HCl does not work.

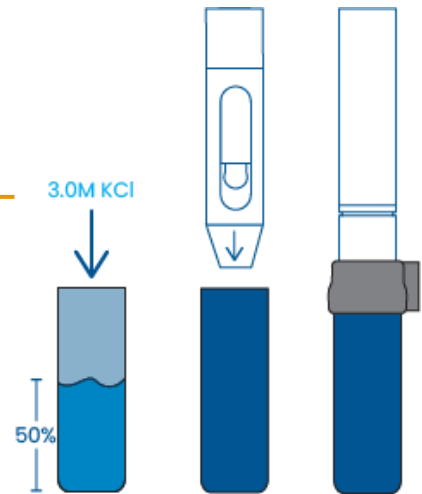


## Troubleshooting

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.
  - 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.
2. All parts are easily replaceable. If damage occurs, please reach out to [sales@phionics.com](mailto: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.

## Contact information:

[support@phionics.com](mailto:support@phionics.com); +1 (775) 339-0565

Monday – Friday 9 AM – 5 PM PST