Frequent Questions and Answers

Q. Why doesn't my tester read high –mV ORP(-250mV to -999mV) anymore?
A. Each time the tester is used in a extremely Alkaline or high –mV ORP sample, a buildup of minerals occurs on the surface of the Platinum ORP sensor that interferes with testers ability to read the full –mV scale. Overtime the buildup can decrease the amount of platinum surface area that comes into contact with the sample adversely affecting the sensitivity of the tester. Try cleaning the sensor in HI7061 cleaning solution for 15 minutes. Note: You may need to re-hydrate the pH sensor (glass bulb) in HI70300 storage solution for 30-90 minutes if you find the pH reading is slow to respond/stabilize after soaking in cleaning solution.

Q. How often should I clean my pH/ORP sensor in HI7061 cleaning solution?
A. For optimal performance and minimal preparation time before use, clean the pH/ORP sensor after each use by soaking it HI7061 cleaning solution for 2-3 minutes. Note: Cleaning the pH/ORP tester after each use for a shorter duration (2-3 mins) will be less detrimental to the pH sensor while still effectively preventing mineral buildup on the surface of the Platinum sensor.

Q. I have cleaned my pH/ORP sensor and still do not see high –mV readings (-250mV to -999mV), why?
A. It is possible your water Ionizer is not producing the desired alkalinity/-mV sample. Consult the manufacturer on how to clean or service the unit. If you are sure the Ionizer does not need service/maintenance you can try polishing the Platinum ORP sensor with a light abrasive lint-free (emery) material such as jewelers rouge. The surface of the platinum sensor must not be scratched during polishing.

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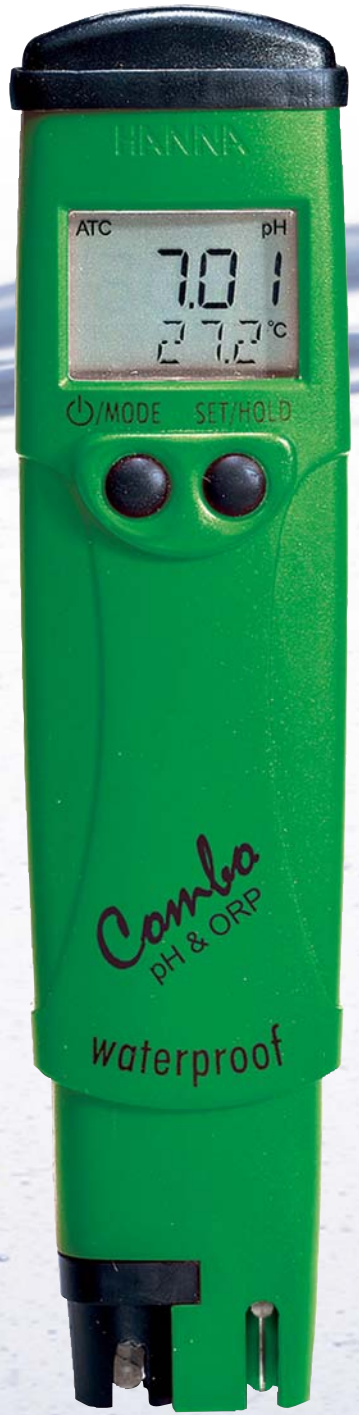

Supplemental Instructional Manual for the HI 98121: Water Ionizer applications

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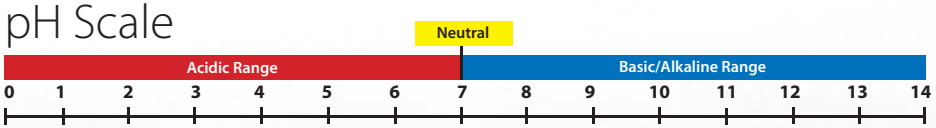
Background

The HI 98121 is a portable tester that measures both pH and ORP. pH is commonly used to determine the level of acidity or alkalinity of a respective sample. A pH value of 7.0 is considered a neutral pH. pH readings above 7.0 are considered alkaline and pH values below 7.0 are considered more acidic.

pH Scale



The HI 98121 will show a change in pH before and after the ionizer process has been applied to your tap water.

ORP stands for Oxidation Reduction Potential. ORP is a reading in millivolts that provides a measurement to oxidize contaminants. The water ionizer is intended to raise the alkalinity of your tap water to counteract the in-take of acids. The water sample should show a negative ORP value after the ionization process has been applied to your water. The negative ions neutralize excess acids.

ORP Preparation and Measurement

• Remove the protective cap. **IT IS COMMON FOR SALT DEPOSITS TO BE PRESENT.** Rinse any deposits off with water.

• For a faster response time, pre-treat the ORP platinum (metal) surface prior to use by soaking it in pretreatment solution for 15 minutes. Generally, if the mV reading corresponding to the pH measurement is higher than the value in the table below, an oxidizing pre-treatment (HI 7092M) is necessary. Otherwise, use a reducing pre-treatment (HI 7091M)

pH	mV	pH	mV	pH	mV	pH	mV	pH	mV
0 →	990	3 →	800	6 →	640	9 →	460	12 →	280
1 →	920	4 →	740	7 →	580	10 →	400	13 →	220
2 →	860	5 →	680	8 →	520	11 →	340	14 →	160

• If pre-treatment is not performed, the electrode will take a significantly longer time to respond. Additionally, the recently pre-treated electrode (metal) surface will dissolve off over time so it will have to be restored by future pre-treatments.

• **TO MEASURE ORP**, immerse the tip of the tester in the sample, stir gently and wait for the reading to stabilize.

Maintenance & Cleaning

• Periodically clean the electrode thoroughly, by leaving it soaked for 10 to 15 minutes in HI 7061M cleaning solution. Alternatively, a light abrasive lint-free (emery) material may be used to polish the platinum tip, if necessary.

• The surface of the platinum electrode must be clean and smooth. The surface of the platinum electrode must not be scratched during polishing.

Following applicable to the HI 98201 ONLY.

• **NOTE:** In case of erroneous readings even after an accurate conditioning and calibration, the reference junction might be contaminated or clogged.

• Pull out 2 mm (1/8") of the cloth junction to renew the electrode reference it is recommended to cut the cloth leaving always at least 2 mm -1/8" over the reference compartment). Repeat the maintenance and conditioning procedure. The cloth junction can be pulled out approximately 20 times. After that, the electrode should be replaced.

Storage

• To minimize clogging of the reference junction and ensure a quick response time, the tip and the junction should be kept moist. Replace the protective cap with a few drops of electrode storage solution (HI 70300M).

• **NEVER STORE THE ELECTRODE IN DISTILLED OR DEIONIZED WATER.**

Ionizer Solutions Kit

pH/ORP solutions kit strongly recommended for Ionized Water Applications (-mV ORP)

Includes:

• HI 7061M General Purpose Cleaning Solution (250 mL)

• HI 7091M Reducing Pretreatment Solution (250 mL)

• HI 7092M Oxidizing Pretreatment Solution (250 mL)

• HI 70007P 7.01 pH Buffer Solution (25 x 20 mL)

• HI 70300M Electrode Storage Solution (250 mL)