

Portable Dissolved Hydrogen Meter ENH-2000

Instruction Leaflet and Warranty Certificate

Thank you for purchasing the ENH-2000 dissolved hydrogen meter. The ENH-2000 employs a sensor specially developed to measure dissolved hydrogen. If minerals and other similar substances in a solution become attached to the sensor, they may cause fluctuations in the measured values. If the sensitivity is low, we recommend that the sensor be cleaned. This product is designed so that the electrode module can be replaced when the service life of the sensor expires. The ENH-2000 is a very delicate measuring instrument. Therefore, before using the product, read this instruction leaflet carefully to ensure correct use.

【Feature】

1. The ENH-2000 is compact, equipped with a simple waterproofing feature, and easy to carry.
2. The ENH-2000 displays and holds the maximum and minimum measured values.
3. The ENH-2000 consumes less battery power and is equipped with spare batteries.
4. The ENH-2000 displays the remaining battery power and automatically switches off 10 minutes after it has been used.
5. The ENH-2000 provides a function that switches the unit of measurement between ppm and ppb, and a function that displays water temperature.
6. The ENH-2000 allows easy measurement, based on the hydrogen reduction method.

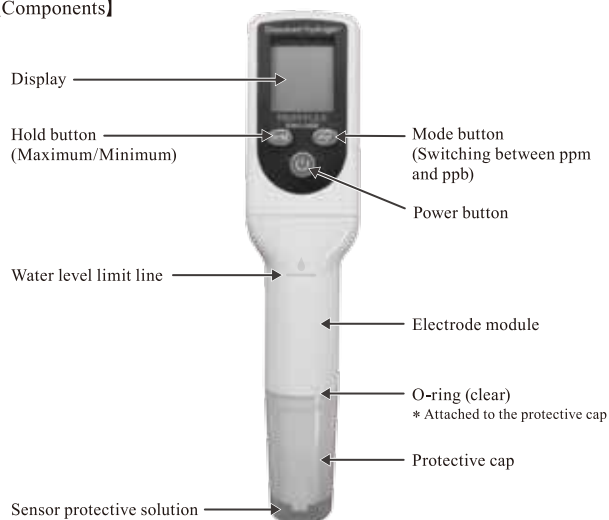
《 Hydrogen reduction method 》

The hydrogen reduction method is a measurement technique that detects oxidation-reduction potential (ORP) in a solution and converts it to an equivalent dissolved hydrogen concentration. Our originally developed analytical technique and special sensor make it easy to conduct hydrogen measurement, which has been very expensive up until now.
Note: If water of low oxidation-reduction potential is measured, a high hydrogen concentration is displayed even though no hydrogen is generated in the water. For this reason, use this product to measure only hydrogen water.

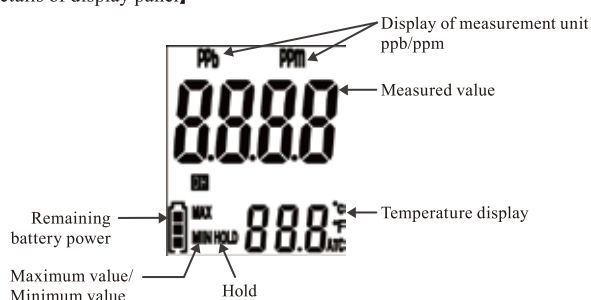
【Specification】

- Measurement range: 0 to 3.00 ppm or 0 to 3,000 ppb
- Display error: ±10%
- Units of measurement: 0.001 ppm or 1 ppb
- Weight: 102 g (including batteries)
- Power supply: Lithium coin cell battery × 4
- Dimensions: (Main unit) 170 × 40 × 26 mm
(Carrying case) 210 × 160 × 49 mm

【Components】



【Details of display panel】



Warranty Certificate

Thank you for purchasing our product.

Model	ENH-2000
Serial number	
Warranty period	One year from ____ / ____ / ____
Customer	Name:
	Address:
	Telephone:
Dealer	

Note: In the warranty certificate, be sure to enter the date of purchase and have the dealer affix their seal.
Otherwise, repairs shall be charged and the product shall not be replaced even within the warranty period.

Manufacturer

TRUSTLEX INC.

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<http://www.trustlex.co.jp>

Warranty Rules

This document shall guarantee that repairs are provided free of charge under the following warranty conditions.

1. The warranty period shall be one year from the date of purchase (commencement date of the warranty period).
However, the warranty shall apply only to the main unit and not the electrode module.
2. In the following cases, repairs shall be charged even within the warranty period.
 - Incorrect use, careless handling, or malfunction or damage due to unauthorized disassembly, repair, or modification
 - Malfunction or damage due to drops, transport, or other similar reasons after purchase
 - Malfunction or damage due to fires, earthquakes, salt damage, lightning damage, gas damage, or other force majeure events
 - Malfunction or damage due to external factors such as abnormal water pressure
3. If we provide on-site repair service that requires travel to remote islands or remote locations equivalent to remote islands, we may charge the actual cost required for the business trip.
4. If the product is purchased through an online shopping service, it may not be covered by the warranty.
5. This warranty shall be effective only in Japan.

Note: This warranty certificate guarantees that repairs are provided free-of-charge within the warranty period and under the conditions as described above and does not restrict any legal rights of the customer.

**We shall not reissue the warranty certificate.
Please keep it in a safe place.**

【Accessories】 * After receiving the product, check that the package contains all of the following items.

- Instruction Leaflet/Warranty Certificate (this document)
- Sensor protective solution (1 bottle)
- Sensor cleaning paper
- Mini-screwdriver for removing batteries
- Batteries (built-in/spare)
- Spare O-ring

【Operating procedure】 **Read without fail!**

This measuring instrument has been developed for use with hydrogen water generators and hydrogen generation devices and for measurement of dissolved hydrogen in hydrogen water. As this product uses a special sensor, never use the product for measurement in alkaline ionized water, hot water, salt water, juice, tea, or other similar liquids. Doing so may result in failure and note that such problems are outside the scope of free repair services.

● **Preparation**

1. Remove the protective cap (while taking care not to spill the protective solution).
2. Press the power button to turn the power on.

● **Measurement**

1. Gently immerse the electrode in the sample solution.
Take care not to exceed the water level limit line.
2. After approximately 10 seconds, a numerical value will be displayed. Make measurements while the instrument is in a stationary state.
Note: For measurement, always use water of room temperature (around 25°C).
Take due care, as excessively high or low water temperatures could cause problems for the sensor.
Note: If “----” is displayed, the measurement range has been exceeded.
3. After measurement, wash the electrode in clean water and mount the protective cap. When mounting the protective cap, check the level of protective solution. If there is not enough protective solution, always add more. Carefully read [Precautions for use] below and take care to prevent the sensor unit from becoming dry.
4. After measurement is complete, if moisture or solution remains near the sensor, a random numerical value may be displayed on the panel. In such a case, wash the electrode in clean water again, mount the protective cap, and then check that the displayed value is “0” before turning the power off*.
*Note that holding down the power switch causes an error.
5. Mount the protective cap and store the instrument. When storing the instrument, lay it horizontally to prevent the sensor unit from becoming dry. For details, carefully read [Precautions for use] below.

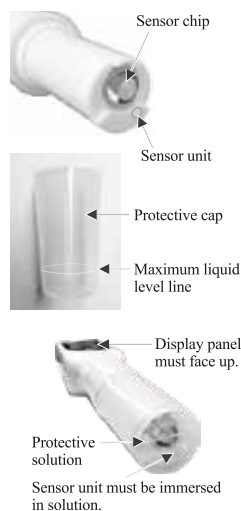
【Function mode】 * This mode is not particularly used for normal measurement.

1. If you turn on the power and then press the hold button, “HOLD” will be displayed and the hold mode will be engaged. The numerical value that is read will be held and displayed on the panel. Pressing the hold button again returns the current mode to the measurement mode.
2. Holding down the hold button displays “MAX/MIN” approximately three seconds later. Then, pressing the hold button again displays the maximum value in MAX and the minimum value in MIN. If you hold down the hold button again until “MAX/MIN” disappears, the current mode will return to the measurement mode.
Note: In the MAX/MIN value display mode, the power does not turn off automatically.

【Precautions for use】 **Read without fail!**

1. If the sensor unit dries out, measurement will be affected. Take care to keep the inside of the protective cap filled with protective solution at all times in order to prevent the sensor unit from becoming dry. (The thin line on the inner surface of the cap indicates the maximum liquid level at which liquid does not overflow when the cap is mounted.) Moreover, take care to prevent the sensor unit from drying out when the main unit is laid horizontally. If the instrument is placed with the display panel facing up, the sensor unit will be located in the lower position so that it can be immersed in the liquid. Therefore, when storing the instrument in the case, take care not to orient the case facing down.

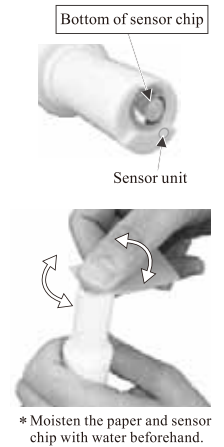
Note: Never use any solution, tap water, or liquid other than the protective solution. Doing so may result in failure.



2. If dirt or minerals adhere to the sensor chip, the sensitivity will deteriorate, resulting in failure to make accurate measurements. To prevent such problems, clean the sensor chip with the provided sensor cleaning paper. Cleaning is also required even after the sensor has been stored in the sensor protective solution.

【Sensor chip cleaning procedure】 **Read without fail!**

1. Remove the protective cap (while taking care not to spill the protective solution).
2. Drop a few drops of water onto the rough surface of the provided sensor cleaning paper and also moisten the sensor chip with water.
3. Gently press **Bottom of sensor chip** against the rough surface of the sensor cleaning paper and place your thumb on the smooth (back) surface of the paper. Polish the bottom surface of the sensor chip by rotating the paper clockwise and counterclockwise with your finger relatively strongly (so that it squeaks) approximately 10 times. Polish the bottom surface of the sensor chip by applying a force that can cause light gray stains to transfer to the paper.
4. Wash away any stains on the sensor surfaces in running water such as tap water, and mount the sensor protective cap again before using the sensor.



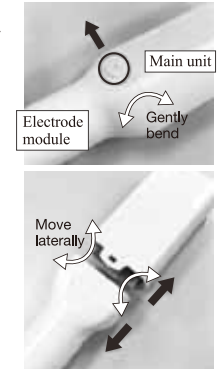
《 Options (prices excluding tax) 》 * Can be purchased from our website.

- Replacement electrode module: ¥15,000 each
- Sensor protective solution: ¥1,000 per bottle
- Sensor cleaning paper: ¥500 for 10 sheets

【Replacing the electrode module】 * The electrode module is not covered by the warranty provided with this product.

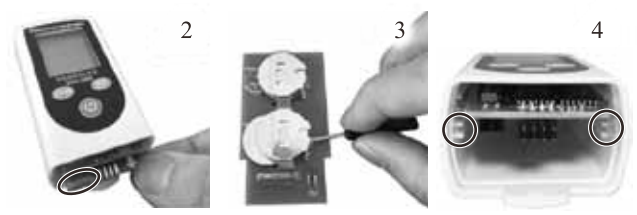
There is a limit to electrode module lifespan. Replace the electrode module at intervals of roughly half a year to one year, depending on how often it is used.

1. With the back of the main unit facing up, hold the main unit and the electrode module separately and then gently apply a force in the directions indicated by the arrow in the upper right photograph so that the clip on the back of the main unit comes free.
2. Once the clip comes free, detach the electrode module while moving the main unit and the electrode module laterally (in the directions indicated by the arrow in the lower right photograph).
3. Attach a new electrode module using the reverse of the above procedure.
Note: Make sure that the electrode module snaps into place.



【Replacing the batteries】 * If the low-battery indicator is flashing, replace the batteries.

1. Remove the electrode module.
2. Slide out the “Battery” marked PCB.
3. Using the mini-screwdriver provided, remove the batteries and replace with new batteries.
4. Slide the PCB back into the original place (the grooves in the main unit).
5. Mount the electrode module.
Note: Make sure that the electrode module snaps into place.



【Setting up the auto power OFF function】 * The product is delivered with the auto power OFF function enabled.

1. Turn the power on and then simultaneously hold down the hold button and the mode button. After approximately three seconds, “A+P” will be displayed at the right bottom of the display panel.
2. Use the hold button to select “on” or “off” for the auto power OFF function and then press the power button. “rSt” will be displayed at the right bottom of the display panel.
3. To reset the meter, use the hold button again to select “YES” or “no” (YES: Reset; no: Not reset) and then press the power button.