Trans Instruments

Instruments for the professioinal

Eco pH
Operation (Manual)

Product Specification

Operating Range	0~14pH
Resolution	0.1pH
Accuracy	±0.2pH
Battery	4x1.5V Button Cell (Alkaline LR44 or equiv.)
Battery Life	Approx. 150 hours (continuous use)
Auto Shut-Off	Approx. 15 min.
Operating Temperature	0°~50°C

pH is one of the basic parameters to check the acidity or alkalinity of water in aquariums. pH readings indicate the imbalance of chemicals in water.

Different types of species of fish have differing pH preferences. For example, Discus prefers a slightly more acidic environment while most fresh water fishes prefer a pH level of 7 to 7.5 When the pH is right, some species begin to develop full colors while others start to spawn.

Some water plants are also very demanding on pH balance as well. pH is also a primary indicator of carbon dioxide (CO^2) in the tanks. When CO^2 level increases, the pH level decreases. A high CO^2 level causes respiratory problem in fishes while a low level of CO^2 retards plant growth.

Commercially available liquid pH adjusters are used to adjust pH. But care must be taken to make adjustment over a period of time, otherwise the water will contain too much chemicals. The ECO pH tester takes out the chore of tedious chemical drip tests.

Trans Instruments
www.transinstruments.com
ISO 9001 Certified Firm

Water resistant - floats on water - drop shock - simple to use

Trans Instruments

Eco pH (Aquaria)

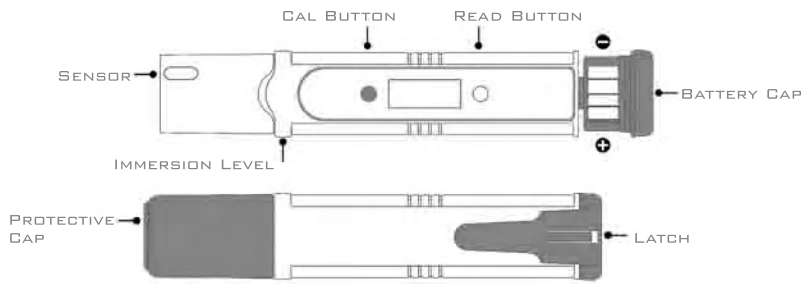
for Aquaculture . Hachery . Monitoring of CO^2 in planted tank

0.1 pH resolution - Auto End-point - One-Touch calibration

Water resistant - floats on water - drop shock - simple to use

ISO 9001 Certified Firm

Product Feature



Battery Cap Installation

INSTALLING BATTERY CAP

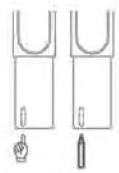
This unit is shipped with the battery cap open. Close the battery cap by pressing Cap on on a hard surface util the latch **clicks**, indicating a secure lock.

REPLACING BATTERIES

1. Lift latch with a pen or mini screwdriver. **DO NOT PULL** latch out completely.
2. Use the thumb to push Cap forward.
3. Hold the battery cap and seperate it from the meter.
4. Replace all batteries according to polarity.

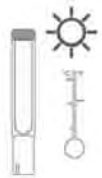
Precautions In Handling

Do not touch, rub or scratch the sensor. It is very delicate and might break or loose its sensitivity.

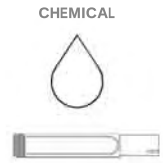


Do not submerge the unit underwater. Though the unit is water resistant, it cannot come under high pressure underwater. If it is dropped into water, retrieve it immediately and wipe dry with a cloth.

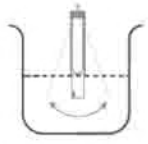
Do not store unit without the protective cap or under high temperature and direct sunlight. This will shorten the life span of the meter and cause premature expiry of the sensor.



Do not clean unit with thinner or solvents. This will damage the unit. Use only mild detergent on damp cloth to clean and rinse unit if needed.



MAKING MEASUREMENT



1. Remove protective cap and press READ button once to switch on.
2. Display will appear blinking. Random readings or "- - -" displayed are normal when sensor is not in contact with liquid.
3. Rinse the sensor area with water and shake the tester in the same way you would use a mercury thermometer, every time before each measurement.
4. Dip the sensor into liquid, shake to remove bubbles. Wait for a stable endpoint reading to establish where display will stop with a beep.
5. Press the READ button to make another auto-lock measurement.
6. If the glass sensor is dry, a slow response will result with 2 to 3 digit off on repeated measurement. Dip the sensor area in a cup of water for 30 to 60 minutes before testing again.
7. To switch off the tester, hold-down the READ button for 3 seconds.
8. Always rinse, shake dry sensor and replace with protective cap before storing.

MAKING MEASUREMENT WITHOUT AUTO-LOCK

1. To disable auto-lock measurement, remove the unit from water, press and hold down both the READ button and CAL button until a blinking small 'A' sign on right corner of the display disappear.
2. Make measurement usual.
3. Here you can freeze the display by pressing the READ button once. Pressing a second time will release it. Whenever the display is blinking, it means the unit is continuously measuring.
4. To enable the auto-lock feature again, press and hold down both the READ button and CAL button until the 'A' sign re-appear.

If the unit is stored for a long time and the sensor become dry, a slow response will result. Dip the sensor area in a cup of water or preferably pH7 calibration solution for 30 to 60 minutes before testing again.

Never soak the sensor in water over night as this will cause premature expiry of sensor.

In the presence of certain radio transmitters, this product may produce erroneous readings. If this occurs then measurements should be repeated at another location.

CALIBRATION

NOTE: Regular calibration is necessary to maintain its accuracy. Depending on usage, perform a check once a week if it is used once daily; check or calibrate once a month if it is used once weekly. If multiple uses are required daily, then daily check or calibration before tests will ensure its accuracy.

This tester is factory calibrated. But due to prolong storage, the unit must be re-calibrated before use. Soak the sensor in tap water for 10 minutes prior to calibration..

Calibration should be performed at room temperature of about 25°C or 77°F.

At anytime, pressing the READ button a few times will cancel and exit the calibration mode.

1. Use only pH7.0 buffer solution for calibration. The attached satchel is for single use only.

   Standard Buffer Solution : pH 7.00 Order Code : SP0701
2. Remove protective cap. Always rinse sensor area with water, shake tester in the same way you would use a mercury thermometer before each and every test.
3. Cut open the shorter side of the pH7 satchel and slide the sensor area till it is fully immersed. Tap or jiggle a little to remove bubbles.
4. Hold on to the satchel, then press and hold down CAL button until it displays CAL then 7.0 in a blinking mode. Wait for a stabilized end-point reading when the display stops with a beep. Calibration is completed.
5. Rinse the sensor area thoroughly with water before continue testing.

CALIBRATION USING pH4 OR pH10 BUFFER:

1. Make sure you have the correct calibration buffer solution and dip the sensor into it.
2. Press and hold the CAL button until CAL appear, then 7.0 displayed. Within 3 seconds press the CAL button once to switch to 4.0 standard, pressing a second time will show 10.0 and the third time back to 7.0 in a cyclical sequence. Display must match the standard solution you are about to calibrate.
3. Wait for a stabilized endpoint reading when display stops with a beep. Calibration completed.

AQUARIA CONTROL

Maintaining correct water chemistry is important for all aquariums. Too high or too low a pH causes stress to marine habitat. Taking into account other parameters like the softness and hardness of water, when the pH is right, the fish will glow in full colors and even spawn.

A general recommended range are as follows:

Saltwater aquarium 8.0 to 8.2pH

Fresh water aquarium 7.0 to 7.4pH

Each fish or plant species has its desired pH preference. It is thus important to get advise from reference books or your supplier to establish the ideal pH range for the species you are rearing.

While testing and adjusting pH value, take care not to overload the buffering capacity of the aquarium. Make adjustment in small incremental over a period of time with pH adjusters and test it each time with the ECO pH test.

Regular checks with your ECO pH tester will help you maintain the water condition in checks and prevent stress and sickness to your fish.

ERROR CODE & MAINTENANCE

- When **Err** appears during measurement or calibration, it means a stable reading cannot be established. This could due to a dry sensor. Try soak the sensor in a cup of water for 1 hour and re-test. When **E7**, **E4** or **E10** appear during calibration, it could mean a wrong standard solution is used. Otherwise, the sensor could be damaged or expired.
- Keep in mind that all pH sensors age with time and usage. Therefore, re-calibration is necessary to maintain accurate reading.
- If the unit is stored for a long period of time, the sensor will become dry. This will result in a slow response to a stable reading. Soaking the sensor area in a cup of tap water or preferably pH7 solution for 30 minutes to 1 hour will restore sensitivity to the sensor.
- When the battery symbol continuously appears on the display, this indicates a low battery and only 2 hours of continuous use remain. Replace all four batteries according to instructions overleaf.
- Note that the pH sensor has a limited life span of about 365 tests or 1 year whichever is earlier. When the unit fails to calibrate or responds very slowly, it means that the unit should be replaced. It is not possible to repair a broken or expired sensor.