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› Digital pH/TDS Meter with ATC pH Tester User Manual

PmoYoKo PH-9901 PH Meter

Digital pH/TDS Meter with ATC pH Tester User Manual

PmoYoKo MODEL: PH-9901 PH METER

Introduction

This manual provides comprehensive instructions for the proper use, maintenance, and troubleshooting of your PmoYoKo Digital pH/TDS Meter. This device is a versatile 3-in-1 instrument designed for accurate measurement of pH, Total Dissolved Solids (TDS), and temperature in various liquids.



Image: The PmoYoKo Digital pH/TDS Meter, showing its display and control buttons, alongside three packets of pH buffer powder for calibration.

Key features of your PmoYoKo pH/TDS meter include:

- **3-in-1 Functionality:** Measures pH, TDS, and temperature simultaneously with high precision.
- **Automatic Calibration:** Features a highly sensitive glass probe and supports 3-point calibration (pH 4.00, pH 6.86, pH 9.18) for accurate measurements.
- **High Accuracy:** Equipped with an advanced algorithm chip and electrode for fast and accurate responses.
- **Green Backlit LCD:** Ensures clear readability of measurements in various lighting conditions.
- **Hold Function:** Allows locking of readings for convenient viewing.
- **Auto-off Function:** Automatically shuts off after 5 minutes of inactivity to conserve battery life.
- **Portable Design:** Compact, pen-shaped design for easy carrying and testing anywhere.

Detail Display of the pH Tester



Image: Visual representation of the wide range of applications for the pH/TDS meter, including laboratories, drinking water, aquariums, swimming pools, aquaculture, and wine testing.

This meter is ideal for testing water in various applications such as aquariums, pools, spas, hydroponics, drinking water, RO systems, food preparation, wine, and beer making.

Product Components and Display

Multiple Application Use

TDS Meter Digital Water Tester



Image: Detailed diagram of the pH/TDS meter, labeling its key components: Battery Compartment, LCD Backlight, ON/OFF Switch, HOLD/TEMP button, MODE/CAL button, External Reference, Agile Glass Electrode, and Temperature sensor.

Familiarize yourself with the components of your pH/TDS meter:

- **Battery Compartment:** Located at the top, houses the 3 x 1.5V LR44 batteries.
- **LCD Backlight:** Green backlit display for clear readings.
- **ON/OFF Switch:** Powers the device on or off.

- **HOLD/TEMP Button:** Used to freeze the current reading or switch between temperature units.
- **MODE/CAL Button:** Used to switch between measurement modes (pH, TDS) and initiate calibration.
- **Agile Glass Electrode:** The sensitive probe at the bottom for taking measurements.
- **External Reference:** Part of the electrode assembly.

Setup and Battery Installation

The PmoYoKo pH/TDS meter requires 3 x 1.5V LR44 batteries for operation. These are typically included with the device.

1. Unscrew the battery compartment cap located at the top of the meter.
2. Insert the 3 x 1.5V LR44 batteries, ensuring correct polarity as indicated inside the compartment.
3. Securely screw the battery compartment cap back on.

Before first use, it is recommended to perform a calibration to ensure optimal accuracy, even if the device is pre-calibrated from the factory.

Operating Instructions

1. Powering On/Off

- Press the **ON/OFF** button to turn the meter on. The LCD backlight will illuminate.
- To turn off the meter, press the **ON/OFF** button again. The meter will also automatically shut off after 5 minutes of inactivity.

2. Taking Measurements (pH, TDS, Temperature)

1. Ensure the meter is clean and dry before use.
2. Remove the protective cap from the electrode.
3. Immerse the electrode into the liquid you wish to test. Ensure the electrode is fully submerged.
4. Gently stir the meter in the liquid to remove any air bubbles and allow the reading to stabilize.
5. The pH, TDS (in ppm), and temperature readings will be displayed on the LCD screen.
6. To switch between pH and TDS modes, press the **MODE/CAL** button briefly.
7. To switch temperature units (Celsius/Fahrenheit), press and hold the **HOLD/TEMP** button.
8. To freeze the current reading on the display, briefly press the **HOLD/TEMP** button. Press it again to release the hold.
9. After use, rinse the electrode with distilled water and replace the protective cap.

3. Calibration Process

The meter uses a 3-point calibration method with pH 4.00, pH 6.86, and pH 9.18 buffer solutions. Calibration ensures the accuracy of your measurements.



Image: Three packets of pH buffer powder (pH 4.01, pH 6.86, pH 9.18) used for calibrating the pH meter.

How to prepare standard buffer solutions:

1. Completely empty the powder from one pH buffer packet into a clean 250ml glass beaker.
2. Add 250ml of distilled or deionized water to the beaker.
3. Stir until the powder has completely dissolved. Repeat for each buffer solution (pH 4.00, pH 6.86, pH 9.18).

Calibration Steps:

1. Turn on the meter.
2. Rinse the electrode with distilled water and blot dry with a clean tissue.
3. Immerse the electrode into the pH 6.86 buffer solution.
4. Press and hold the **MODE/CAL** button until "CAL" appears on the display. The meter will automatically recognize the buffer solution and begin calibration.
5. Wait for the reading to stabilize and the display to show "END" or a stable pH value, indicating successful calibration for pH 6.86.

6. Rinse the electrode with distilled water.
7. Now, immerse the electrode into the pH 4.00 buffer solution. Press and hold **MODE/CAL** again. The meter will calibrate to pH 4.00.
8. Rinse the electrode with distilled water.
9. Finally, immerse the electrode into the pH 9.18 buffer solution. Press and hold **MODE/CAL** again. The meter will calibrate to pH 9.18.
10. After all three points are calibrated, rinse the electrode thoroughly with distilled water and replace the protective cap.

Regular calibration is crucial for maintaining the accuracy of your meter, especially after prolonged storage or frequent use.

4. Understanding Readings



Image: A visual pH scale ranging from 0.00 (Acidic) to 14.00 (Alkaline), with common substances listed at their approximate pH values, such as battery acid (0), stomach acid (1), orange juice (3), water (7), baking soda (9), and bleach (12).

pH Scale: The pH scale ranges from 0 to 14. A pH of 7 is neutral. A pH less than 7 is acidic, and a pH greater than 7 is alkaline (basic). Understanding the pH of your solution is vital for various applications, from water quality to food safety.

Wide Range of Application

Most of areas can test pH & TDS value



Laboratories



Drinking Water



Swimming Pools



Aquariums



Wine



Aquaculture

Image: A chart illustrating TDS (Total Dissolved Solids) levels in Parts Per Million (PPM) and their corresponding water quality descriptions, such as High TDS Water (>30-50), Average Tap Water (80), Moderate Hard Water (80-160), Hard Water (160-330), Very Hard Water (>300), Disqualification Water (>1000), and Ideal Drinking Water (80-100).

TDS (Total Dissolved Solids): TDS measures the concentration of dissolved solid particles in a liquid, expressed in parts per million (ppm). High TDS levels can indicate the presence of various inorganic salts, organic matter, and other dissolved substances. Refer to the provided chart for general guidelines on TDS levels and water quality.

Maintenance

- **Electrode Cleaning:** After each use, rinse the electrode thoroughly with distilled or deionized water to prevent contamination and buildup. Do not use tap water for rinsing as it may contain minerals that affect the electrode.
- **Storage:** Always replace the protective cap on the electrode when not in use. Store the meter in a cool, dry place. For long-term storage, ensure the electrode is kept moist by adding a few drops of storage solution or pH 4.00 buffer solution to the cap. Do not store in distilled water.
- **Battery Replacement:** When the battery indicator on the display shows low power or the meter fails to turn on, replace all three 1.5V LR44 batteries. Follow the battery installation steps outlined in the "Setup" section.

Troubleshooting

Problem	Possible Cause	Solution
Inaccurate or fluctuating readings	Electrode is dirty or dry. Meter needs calibration. Old or weak batteries. Temperature difference between meter and sample.	Clean the electrode with distilled water. Perform a 3-point calibration. Replace batteries. Allow meter and sample to reach similar temperatures.
Display is dim or blank	Low or dead batteries. Poor battery contact.	Replace batteries. Check battery placement and contacts.
Meter does not turn on	Dead batteries. Battery inserted incorrectly.	Replace batteries. Verify battery polarity.

If you encounter issues not listed here or if the suggested solutions do not resolve the problem, please contact customer support.

Specifications

Feature	Detail
Measurement Range (TDS)	0-1999ppm, 0-19.99ppt
Measurement Range (pH)	0.00-14.00pH
Resolution (pH)	±0.01PH
Resolution (TDS)	±2% F.S
Auto-off	5 minutes
Battery	3 x 1.5V LR44 Battery (Included)
Calibration	3 Points (9.18, 6.86, 4.01) Calibration
Product Dimensions	3.51 x 3.51 x 18.29 cm
Item Weight	118 g
Model Number	PH-9901 PH Meter
Manufacturer	PmoYoKo
UPC	721678690132

Warranty and Support

Specific warranty information for your PmoYoKo Digital pH/TDS Meter is typically provided with the product packaging or available on the manufacturer's official website. Please refer to these resources for details regarding warranty coverage, terms, and conditions.

For technical support, troubleshooting assistance beyond this manual, or inquiries regarding parts and service, please

contact PmoYoKo customer service through the contact information provided on their official website or the product's retail page.