

AC Infinity AC-PHM3

AC Infinity pH Meter Kit (Model AC-PHM3) Instruction Manual

Brand: AC Infinity | Model: AC-PHM3

INTRODUCTION

The AC Infinity pH Meter Kit (Model AC-PHM3) is a high-precision digital instrument designed for accurate measurement of water acidity, alkalinity, and temperature. This device assists in optimizing water quality for various applications, including gardening, hydroponics, aquariums, swimming pools, and general water treatment. Its responsive lithium glass membrane sensor provides instant pH readings with a high accuracy of ± 0.1 pH. The meter features an IP-67 rating, ensuring protection against moisture, heat, dust, and sand, and includes a sensor shield for probe safeguarding. The kit comes with 4.00 pH and 7.00 pH calibration solutions to maintain consistent accuracy and support proper probe storage.

WHAT'S IN THE BOX

- AC Infinity pH Meter (Model AC-PHM3)
- 4.00 pH Calibration Solution
- 7.00 pH Calibration Solution
- Storage Solution (for probe maintenance)
- Protective Carrying Case

SETUP

Initial Preparation

1. **Unpack the Meter:** Carefully remove the pH meter and accessories from the protective carrying case.
2. **Probe Hydration:** Before first use, and after prolonged storage, soak the pH probe in the provided storage solution for approximately 30 minutes. This hydrates the lithium glass membrane, ensuring optimal performance and accuracy.

3. **Rinse Probe:** After hydration, gently rinse the probe with distilled or deionized water. Do not wipe the glass membrane, as this can damage it.

Calibration

Regular calibration is crucial for maintaining the accuracy of your pH meter. The AC-PHM3 supports 2-point or 3-point calibration using the included 4.00 pH and 7.00 pH solutions. For best results, perform a 3-point calibration (4.00, 7.00, and 10.00 pH if a 10.00 pH solution is acquired separately) or at least a 2-point calibration (4.00 and 7.00 pH) before each critical measurement session or if readings become inconsistent.

1. **Prepare Solutions:** Pour small amounts of the 4.00 pH and 7.00 pH calibration solutions into separate, clean containers. Ensure the solutions are at room temperature.
2. **Start Calibration:** Turn on the pH meter. Refer to the meter's display for calibration mode instructions, typically activated by pressing a 'CAL' button.
3. **Calibrate with 7.00 pH:** Immerse the rinsed probe into the 7.00 pH solution. Allow the reading to stabilize. The meter will typically indicate successful calibration (e.g., a smiley face or 'END').
4. **Calibrate with 4.00 pH:** Rinse the probe thoroughly with distilled water. Immerse it into the 4.00 pH solution. Allow the reading to stabilize and confirm calibration.
5. **(Optional) Calibrate with 10.00 pH:** If performing a 3-point calibration, rinse the probe and immerse it into a 10.00 pH solution (not included).

LAB-GRADE PRECISION

Highly precise electrode sensor measures water with pinpoint accuracy, utilizing the included calibration solutions to ensure reliability through heavy use.



Image: The AC Infinity pH Meter displaying a stable 4.00 pH reading, demonstrating its precision during calibration.

OPERATING INSTRUCTIONS

Taking a Measurement

1. **Turn On:** Press the power button to turn on the pH meter.
2. **Rinse Probe:** Always rinse the probe with distilled or deionized water before and after each measurement to prevent cross-contamination.
3. **Immerse Probe:** Dip the pH probe into the sample solution you wish to test. Ensure the liquid level is above the sensor bulb.
4. **Stabilize Reading:** Gently stir the probe in the solution and wait for the reading on the display to stabilize. The meter will typically indicate when the reading is stable.
5. **Record Reading:** Note down the pH and temperature values displayed.
6. **Clean and Store:** After measurement, rinse the probe thoroughly with distilled water and place it back into the storage solution or protective cap.



Image: The AC Infinity pH Meter actively measuring the pH of a liquid sample in a beaker.

Understanding the Sensor

The AC-PHM3 utilizes a sensitive lithium glass membrane sensor for rapid and accurate pH detection. This advanced sensor technology allows for quick determination of water's acidity and alkalinity, along with integrated temperature measurement, which is crucial for temperature-compensated pH readings.

ADVANCED WATER TESTING

A digital pH reader designed to help maintain ideal water quality levels by measuring acidity, alkalinity, and temperature using the fast acting sensor probe.



Image: A detailed view of the lithium glass membrane sensor, the core component for advanced water testing.

MAINTENANCE

Probe Cleaning

To ensure accurate and consistent readings, the pH probe should be cleaned regularly, especially after testing samples that may leave residue. Rinse the probe thoroughly with distilled water. For stubborn deposits, a mild cleaning solution specifically designed for pH probes can be used, followed by a thorough rinse.

Storage

Proper storage is vital for extending the lifespan of the pH probe. Always store the probe with its cap filled with the provided storage solution. Never store the probe dry or in distilled water, as this can dehydrate the glass membrane and lead to inaccurate readings or permanent damage.

Recalibration Frequency

The frequency of recalibration depends on usage and the accuracy required. For critical applications or frequent use, recalibrate the meter daily or every few days. For less frequent use, recalibrate at least once a week or whenever readings appear inconsistent. Always recalibrate after cleaning the probe or if the meter has

been stored for an extended period.



Image: The AC Infinity pH Meter, showcasing its IP67 rating for enhanced durability and protection during use and maintenance.

TROUBLESHOOTING

Problem	Possible Cause	Solution
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Problem	Possible Cause	Solution
Inaccurate or Unstable Readings	<ul style="list-style-type: none">• Probe not properly hydrated• Probe is dirty or contaminated• Calibration solutions expired or contaminated• Meter not calibrated or improperly calibrated• Air bubbles on the probe	<ul style="list-style-type: none">• Soak probe in storage solution for 30 minutes• Clean probe with distilled water or pH cleaning solution• Use fresh calibration solutions• Perform a full 2-point or 3-point calibration• Gently tap the meter to dislodge bubbles
Meter Does Not Turn On	<ul style="list-style-type: none">• Low or dead batteries• Battery contacts are dirty	<ul style="list-style-type: none">• Replace batteries• Clean battery contacts
Slow Response Time	<ul style="list-style-type: none">• Probe is dry or aged• Low sample temperature	<ul style="list-style-type: none">• Re-hydrate probe in storage solution• Ensure sample is at room temperature

SPECIFICATIONS

Feature	Detail
Model Number	AC-PHM3
Precision	±0.1 pH Accuracy
Sensor Type	pH, Temperature
Probe Type	Lithium Glass Membrane
IP Rating	IP67
Calibration Solutions Included	4.00 pH, 7.00 pH
Item Weight	1.96 pounds
Package Dimensions	11.22 x 8.03 x 3.15 inches

SPECIFICATIONS

MODEL | pH Meter (AC-PHM3)
SENSOR | pH, Temperature
PROBE | Lithium Glass Membrane

PRECISION | ± 0.1 Accuracy
SOLUTIONS | 4.00 pH, 7.00 pH
IP RATING | IP67



Image: A visual summary of the AC Infinity pH Meter's key specifications and included calibration solutions.

WARRANTY AND SUPPORT

For warranty information, technical support, or assistance with your AC Infinity pH Meter Kit (Model AC-PHM3), please visit the official AC Infinity website or contact their customer service department. Keep your purchase receipt as proof of purchase for any warranty claims.

AC Infinity Official Website: www.acinfinity.com