AC INFINITY

pH METER
HYDROPONIC TESTER

USER MANUAL

WELCOME

Thank you for choosing AC Infinity. We are committed to product quality and friendly customer service. If you have any questions or suggestions, please don't hesitate to contact us. Visit www.acinfinity.com and click contact for our contact information.

EMAIL
support@acinfinity.com

WEB
www.acinfinity.com

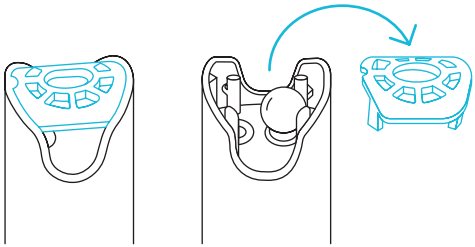
LOCATION
Los Angeles, CA

MANUAL CODE PHM2304X1

PRODUCT	MODEL	UPC-A
pH Meter	AC-PHM3	819137024205
pH Meter PRO	AC-PHM5	819137023987
Hydroponic Meter PRO	AC-PHM7	819137024212

NOTE

- Water droplets are added during the production of this product to maintain the probe's moisture. This is normal practice and is not indicative of a used product.
- Do NOT use this product under freezing cold conditions. Wait until your space warms to room temperature before using this product.
- This testing device is equipped with a sensor shield that protects the glass bulb from accidental collisions (see image below). You may remove this shield to clean the sensor and put it back when you are finished.



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PRODUCT WARNING

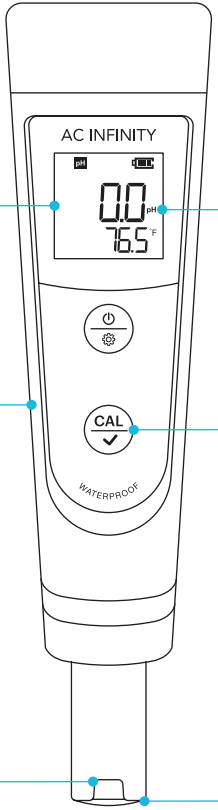
TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS, OBSERVE THE FOLLOWING:

1. Read all instructions before using this product.
2. Do not fully submerge this product underwater.
3. Do not operate this product if it malfunctions, has been dropped, or is damaged in any manner.
4. Wash hands thoroughly after handling calibration solutions.
5. Do not consume the calibration solutions. Seek medical attention and rinse mouth in case of consumption. Keep solutions out of reach from children and animals.

KEY FEATURES

PREMIUM DISPLAY
Vivid LCD screen with locking capabilities provides a sharp layout for convenient observation.

LONGER LIFESPAN
pH 4.00 solution extends the pH meter's longevity by supplying ideal storage conditions in between use.



DURABLE DESIGN
IP67 protection rating ensures high resistance against heat, liquids, and dust.

WELL-REGULATED
Calibration solutions balance the probe to ensure consistently accurate readings.

HIGHLY ACCURATE
Lithium glass membrane sensor quickly delivers precise pH readings with ±0.1 accuracy.

SECURE BUILD
Detachable sensor shield protects glass electrode probe to handle heavy usage.

PRODUCT CONTENTS

pH
METER
(x1)

pH 4.00 CALIBRATION
BUFFER SOLUTION
(x1)

pH 7.00 CALIBRATION
BUFFER SOLUTION
(x1)

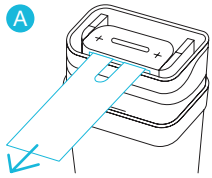
TRAVEL
LANYARD
(x1)

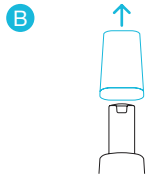
POWERING AND SETUP

FIRST TIME USE

STEP 1

Pull off the battery insulation paper and remove the probe cap.

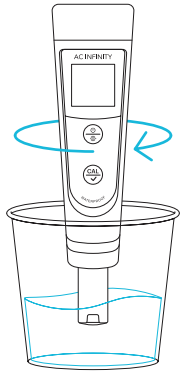




Your pH meter will come shipped with 3M KCL droplets in the probe cap. You may see this substance as white sediment, which can be rinsed off and will not affect its usability.

STEP 2

Fill a cup with 8-16 oz. of distilled or deionized water for probe rinsing. Shake off excess water.

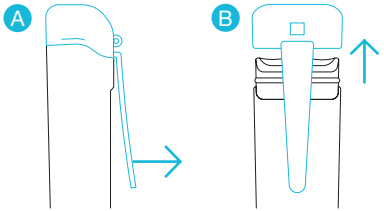


If unused for a month or longer, soak in 3M KCL (not included) for 30 minutes before use.

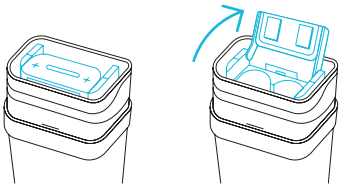
POWERING AND SETUP

BATTERY REPLACEMENT

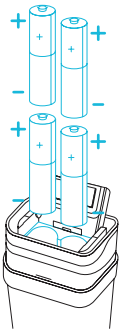
STEP 1
Remove the cap.



STEP 2
Pull the battery tab open.



STEP 3
Insert the batteries as shown. The positive end (+) of each battery must face upwards.



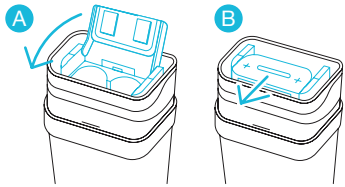
CAUTION: Incorrectly inserted batteries may damage your pH meter and cause potential hazards.

POWERING AND SETUP

BATTERY REPLACEMENT

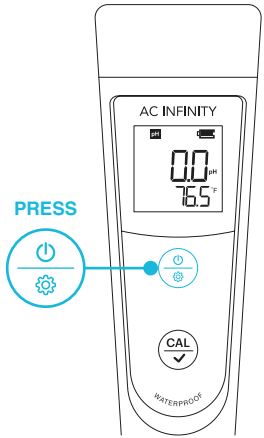
STEP 4

Push the battery tab down and forward to lock it. Place the cap back on.

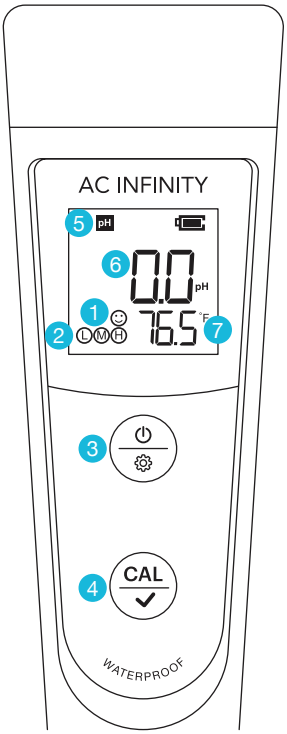


STEP 5

Press the power/setting button to power it on.



PROGRAMMING



1. SMILE ICON
Indicates a stabilized reading that lasts 2 seconds or longer.

2. CALIBRATION ICONS

L = pH 4.00

M = pH 7.00

H = pH 10.01

3. POWER/SETTING BUTTON
Powers your pH meter ON/OFF or adjusts settings. Cancels calibration in CALIBRATION Mode. Enters Settings while your pH meter is OFF.

4. CALIBRATION BUTTON
Enters CALIBRATION Mode, initiates the calibration, and confirms changes.

5. MEASUREMENT MODE
Displays the parameter indication.

6. PROBE pH
Displays the current pH level that the probe is detecting.

7. PROBE TEMPERATURE
Displays the current temperature that the probe is detecting.

OTHER SETTINGS

GENERAL SETTINGS

POWER ON
Press the power/settings button.

PRESS +

POWER OFF
Hold the power/settings button.

HOLD +

CHANGE PARAMETER
In SETTINGS, press the power/settings button.

PRESS +

CANCEL CALIBRATION
In CALIBRATION mode, press the power/settings button.

PRESS +

ACCESS SETTINGS
While off, hold the power/settings button to enter SETTINGS.

HOLD +

START CALIBRATION
Press the calibration button.

PRESS +

CONFIRM CHANGES
In SETTINGS and CALIBRATION mode, press the calibration button to confirm changes.

PRESS +

ACCESS CALIBRATION MODE
In MEASUREMENT mode, hold to enter CALIBRATION mode.

HOLD +

OTHER SETTINGS

PARAMETER SETTINGS

Category	Settings Adjustment	Settings	Factory Settings
P1	Selects pH Buffer Series	USA / NIST	USA
P2	Selects Temperature Scale	°F / °C	°F
P3	Restores Factory Settings	No / Yes	No

1. ENTER SETTINGS

Holding the power/settings button will enter settings while your pH meter is off.

HOLD +

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2. CYCLE THROUGH SETTINGS

Pressing the power/settings button switches between P1-P2-P3.

PRESS +

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3. UNLOCK SETTINGS

Pressing the calibration button will enable you to adjust your current setting which will flash.

PRESS +

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4. ADJUST SETTINGS

Pressing the power/settings button adjusts settings.

Pressing the calibration button confirms the settings change.

PRESS +

PRESS +

---

5. JUMP TO MEASUREMENT MODE

Holding the power/settings button returns you to the MEASUREMENT mode.

HOLD +

CALIBRATION NOTES

A. The 1st point calibration must be 7.00 pH. Perform the 2nd and 3rd point calibrations (4.00 and 10.01 respectively) after the 1st point calibration is complete.

B. "Er2" will appear when the calibration button is pressed while the calibration process is incomplete (smile icon does not appear on the screen).

C. This testing kit comes included with pH 4.00 and pH 7.00 buffer solutions only. You may purchase a pH 10.01 buffer solution separately if your target pH level is > 8.0 pH.

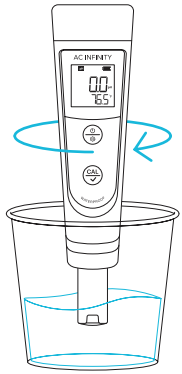
D. The included pH buffer solutions can be used for up to 10 calibrations. After use, tightly close the bottle and store it at room temperature. Replace the solutions after their 10 uses to help keep your pH measurements reliable.

E. This pH meter will automatically recognize the pH buffer solution it is in. You may select the following calibration points:

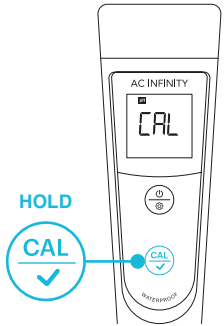
Calibration	Calibration Solution	Calibration Icon	Application
1-Point	7.00 pH	(M)	Required Accuracy ≥ 0.3 pH
2-Point	7.00 pH and 4.00 pH	(L) (M)	Target pH level < 8.0 pH
	7.00 pH and 10.01 pH	(M) (H)	Target pH level > 8.0 pH
3-Point	7.00 pH, 4.00 pH, and 10.01 pH	(L) (M) (H)	Wide measuring range

CALIBRATION

STEP 1
Rinse the probe in distilled water and shake off excess moisture.



STEP 2
Hold the calibration button to enter CALIBRATION Mode.



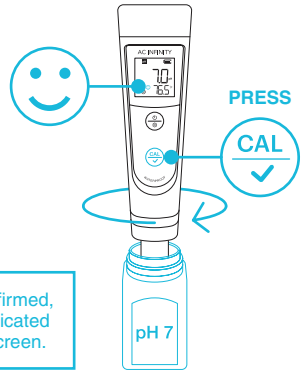
You may cancel the calibration and return to MEASUREMENT Mode by pressing the power/setting button.

CALIBRATION

STEP 3

Quickly stir the probe in the 7.00 pH buffer solution, then hold it still.

Wait for the smile icon to appear, then press the calibration button to finish the 1st point calibration.

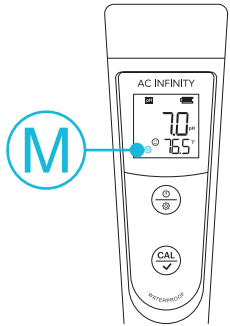


Once the calibration is confirmed, the next solution will be indicated at the bottom right of the screen.

STEP 4

Your pH meter will return to MEASUREMENT mode once the calibration process is complete.

"M" will display on the lower left corner, indicating a successful 1st point calibration (the middle point).



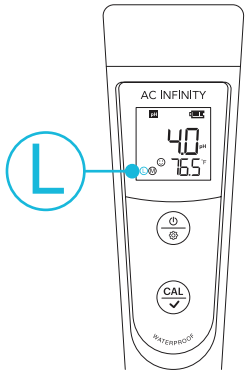
To continue calibration, **DO NOT** turn off your pH meter after you finish each calibration.

CALIBRATION

STEP 5

Repeat steps 1-3 to calibrate the 2nd point, using the 4.00 pH buffer solution instead.

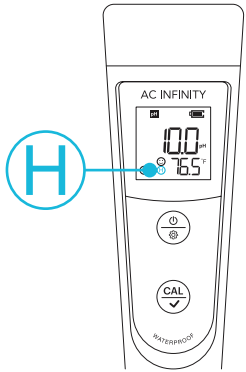
"L" will display next to "M," indicating a successful 2nd point calibration.



STEP 6

You may optionally repeat steps 1-3 to calibrate the 3rd point (target pH > 8.0), using a standard 10.01 pH buffer solution (not included).

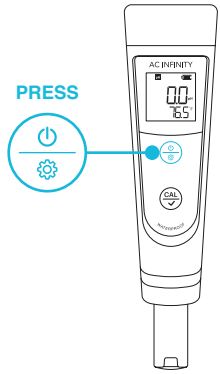
"H" will show up next to "L" and "M," indicating a successful 3-point calibration.



MEASUREMENT

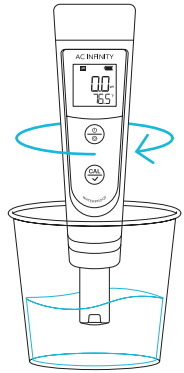
STEP 1

Press the power/settings button to power on your pH meter, then remove the probe cap.



STEP 2

Rinse the probe in distilled water and shake off excess moisture.

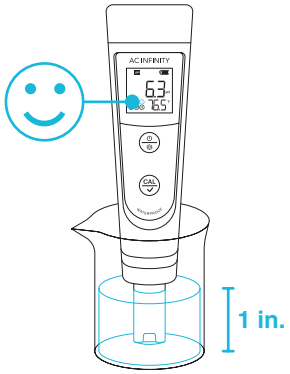


MEASUREMENT

STEP 3

Submerge the probe at least 1 in. deep into your sample solution, then hold it still.

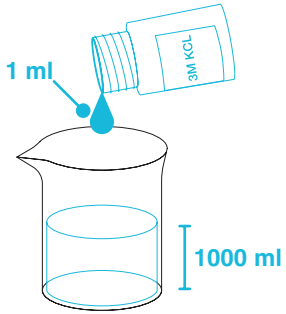
Record the readings after the reading is stabilized, indicated by the smile icon on the screen.



PURE WATER MEASUREMENT

Readings will take longer to fully stabilize (~1-5 min.) when testing pure water like, drinking water, RO water, and distilled water.

If your readings are not stabilizing, add a 1:1000 ratio of 3M KCL solution to your pure water (e.g. 1 ml KCL to 1000 ml water) to accelerate the stabilization while minimizing pH change.

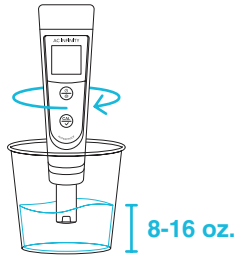


MAINTENANCE

PROBE CLEANING

RINSING THE PROBE

Thoroughly rinse off the probe with 8-16 oz. of distilled or deionized water before and after each test to ensure accurate readings.



The lifespan of your pH meter's probe is 1-3 years. This will depend on how often it is used and how well-maintained it is. Follow the guide below to help you extend and properly maintain the probe's lifespan.

REMOVING TOUGH CONTAMINANTS

Detach the sensor shield and soak the probe in a cleaning solution or detergent water for about 30 minutes.

Use a soft brush to remove the contaminants.

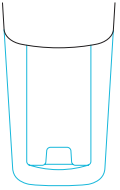
Soak the probe in 3M KCL solution for at least 1 hour. Rinse it off, then re-calibrate the pH meter before using it.

MAINTENANCE

PROBE STORAGE

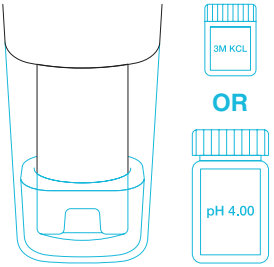
REGULAR USAGE (DAILY OR WEEKLY)

Make sure the probe cap stays moist by closing the probe when not in use.



LONG-TERM STORAGE

Add 3M KCL solution or pH 4.00 buffer solution up to one quarter of the probe cap. Close the probe cap tightly to store the probe in it.



MAINTENANCE

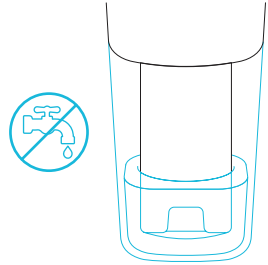
PROBE STORAGE

PROPER STORAGE

NEVER store the probe in tap, RO, distilled, or deionized water. Doing so may damage the probe.

If stored in this matter, immediately soak the probe in 3M KCL solution overnight, then re-calibrate it before using your pH meter.

Pure water must only be used to rinse the probe.



TROUBLESHOOTING GUIDE

ISSUE	REASON	HOW TO FIX
Cannot Calibrate	Pressing CAL too soon (showing "Er2")	Wait for ☺ to stay on screen before pressing CAL
	Poor quality standard solutions ("Er1" displayed)	Replace with clean standard calibration solutions made by reputable manufacturers.
	Contaminated sensor ("Er1" displayed)	Use a soft brush to clean the probe with probe cleaning solution or detergent water.
	Incorrect calibration order ("Er1" displayed)	Reboot your pH meter, calibrate pH 7 first, then pH 4. For details, refer to pages 16-17.
	Broken probe ("Er1" displayed)	If you don't see any damage to the probe, contact AC Infinity customer support. If there is visible damage, replace your pH meter.
	Probe is not fully submerged solution ("Er1" displayed)	Make sure the probe is fully immersed at least 1 in. deep into the solution.
	Air bubbles around the sensor ("Er1" displayed)	Stir in the solution to remove bubbles.
Reading is always slowly changing, won't stabilize	Contaminated sensor	Use a soft brush to clean the probe with cleaning solution or detergent water.
	Clogged junction	Use a soft brush to clean the probe with cleaning solution or detergent water, then soak it in 3M KCL soaking solution overnight.
	Aged probe	Replace your pH meter.
	Testing pH of low iconic strength solutions like tap/ drinking/RO/distilled water	Wait 1-5 minutes to reach a fully stabilized reading. if still not stabilizing, then soak in 3M KCL soaking solution overnight.
Displays similar readings in any solution or always displays 7.0 pH	Broken probe	If you don't see any damage to the probe, contact AC Infinity customer support. If there is visible damage, replace your pH meter.
	pH meter defect	Contact AC Infinity customer support.
Reading keeps jumping	Probe is not fully submerged in the solution	Make sure the probe is fully immersed at least 1 in. deep into the solution.
	Air bubbles around the sensor	Stir in the solution to remove bubbles.
	Probe is not properly connected or the pin connector is broken	Check the probe's connector, make sure it's connected and not broken. Align the probe correctly before plugging in. Do not force it. Ensure that the connector is not exposed.
Calibration is successful, but reading is not accurate	Aged probe	Replace your pH meter.
	Air bubbles around the sensor	Stir in the solution to remove bubbles.
	Clogged junction	Clean the probe with cleaning solution, then soak in 3M KCL soaking solution overnight.
	Comparison with other pH meters, test strips, or drop tests	To compare with other pH meters, make sure to calibrate all testers in the same pH 7 solution, then test pH 4. Test strips or drop tests' accuracy is not comparable to pH meters.

FAQ

Q: Why is moisture in my new pH meter?
A: New pH meters are stored in a special solution to maintain the integrity of the electrode and its glass membrane. This glass membrane must be kept moist in order for the pH meter to function properly.

Q: Why did my pH meter turn off?
A: Your pH meter will automatically turn off after 8 minutes of inactivity.

Q: How often should I calibrate the pH/conductivity?
A: Your meter's accuracy depends on several factors like the environment it's used in and how often it is used. We recommend calibrating your pH meter once a month, after testing a series of samples, or if readings don't appear accurate.

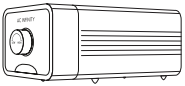
Q: What is the difference between conductivity, TDS and salinity?
A: Conductivity is a measure of a solution's ability to conduct electricity, while TDS (total dissolved solids) and salinity are measures of a solution's concentration of dissolved solids and salt, respectively.

Q: What is the difference between USA and NIST in the settings?
A: The USA and NIST settings differ in the buffer solutions used for calibration. The USA settings use three buffer solutions with pH values of 4.00, 7.00, and 10.00 while NIST uses the pH values of 4.01, 6.86, and 9.18.

AC INFINITY PRODUCTS

Air Pump

An adjustable air pumping system designed to benefit hydroponic systems by enrichening oxygen levels for enhanced plant growth. Built with a durable shell and multi-layered internal muffler, this air pump securely delivers one way-oxygenation while remaining ultra-quiet with minimal vibration.



Water Pump

A submersible pump designed to circulate and deliver water to plant roots for enhanced yields in hydroponic settings. Featuring a high-performance motor and interchangeable nozzles, this water pump is capable of quietly and efficiently enhancing water flow for multiple irrigation systems.

Self-Watering Fabric Pot Base

A set of potted plant stands designed to eliminate the need for active irrigation by automatically drawing water to fabric pots through adjustable wick lines. Features a heavy-duty drip tray to capture runoff water and support planters up to 100 pounds as well as a water gauge to display hydration levels.

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WARRANTY

This warranty program is our commitment to you, the product sold by AC Infinity will be free from defects in manufacturing for a period of two years from the date of purchase. If a product is found to have a defect in material or workmanship, we will take the appropriate actions defined in this warranty to resolve any issues.

The warranty program applies to any order, purchase, receipt, or use of any products sold by AC Infinity or our authorized dealerships. The program covers products that have become defective, malfunctioned, or expressively if the product becomes unusable. The warranty program goes into effect on the date of purchase. The program will expire two years from the date of purchase. If your product becomes defective during that period, AC Infinity will replace your product with a new one or issue you a full refund.

The warranty program does not cover abuse or misuse. This includes physical damage, submersion of the product in water, incorrect Installation such as wrong voltage input, and misuse for any reason other than intended purposes. AC Infinity is not responsible for consequential loss or incidental damages of any nature caused by the product. We will not warrant damage from normal wear such as scratches and dings.

Contact our dealers department at **dealers@acinfinity.com** or **(626) 838-4656** for more information about our dealers and distributors program. Contact our customer service department at **support@acinfinity.com** or **626-923-6399** for product and warranty assistance. Our business hours are Monday through Friday, 9:00 am to 5:00 pm PST.

If you have any issues with this product, contact us and we'll happily resolve your problem or issue a full refund!

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