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› User Manual for Apera Instruments PH20 pH Tester and AcuRite 00613 Digital Hygrometer Kit

## Apera Instruments / AcuRite AI209 PH20 / 00613

# User Manual

## APERAI INSTRUMENTS PH20 pH TESTER & ACURITE 00613 DIGITAL HYGROMETER KIT

Model: AI209 PH20 / 00613

Brand: Apera Instruments / AcuRite

### Introduction

This manual provides detailed instructions for the setup, operation, maintenance, and troubleshooting of your Apera Instruments PH20 Waterproof pH Tester and AcuRite 00613 Digital Hygrometer & Indoor Thermometer. Please read this manual thoroughly before using the devices to ensure proper function and longevity.



Image: The Apera Instruments PH20 pH Tester (left) and AcuRite 00613 Digital Hygrometer (right) shown together.

## Apera Instruments PH20 pH Tester Overview

The Apera Instruments PH20 is a reliable pocket pH tester designed for general-purpose pH testing in various applications such as hydroponics, horticulture, pools, water treatment, and education. It features automatic calibration, automatic temperature compensation (ATC), and stable value recognition.





Image: The Apera Instruments PH20 pH Tester with its protective cap removed, showing the pH sensor.

## Key Features:

- Easy auto-calibration with buffer recognition.
- Automatic Temperature Compensation (ATC) for accurate readings from 32 to 122°F (0 to 50°C).
- Low impedance pH sensor for high response rate and accuracy.
- Automatic recognition of stable values for consistent measurements.
- IP67 water-resistant rating.
- Long battery life (up to 2000 hours) with AAA alkaline batteries.

## AcuRite 00613 Digital Hygrometer Overview

The AcuRite 00613 Digital Hygrometer and Indoor Thermometer provides a comprehensive view of your indoor environment, displaying both humidity and temperature. It helps monitor indoor air quality for health and comfort.

# Accuracy



 Humidity  $\pm 3\%$  from 21-80%  Temperature  $\pm 2^\circ\text{F}$



The image shows the AcuRite 00613 Digital Hygrometer and Indoor Thermometer. On the left, the device is shown in a white protective sleeve, displaying a humidity reading of 48.6% and a temperature of 77.1°F. On the right, the device is shown inside a glass display case, displaying a humidity reading of 49% and a temperature of 77°F. The display case also shows a battery level indicator and a 'OK' status.

Image: The AcuRite 00613 Digital Hygrometer showing its display with humidity percentage and indoor temperature.

## Key Features:

- Displays indoor relative humidity (%RH).
- Displays indoor temperature in Fahrenheit and Celsius.
- Humidity Level Icon indicates high, low, or ideal indoor conditions.
- Records daily high and low temperature and humidity.
- Multiple mounting options: flat stand, clip, and magnet.

## Setup

### Apera Instruments PH20 pH Tester Setup:

1. **Battery Installation:** Open the battery compartment and insert the four AAA batteries according to the polarity indicators. Close the compartment securely.
2. **Electrode Preparation:** Remove the protective cap from the electrode. Rinse the electrode with distilled water and gently blot dry with a lint-free tissue.
3. **Initial Calibration:** It is recommended to perform an initial calibration before first use. Refer to the "Calibration" section for detailed steps.





Image: The Apera Instruments PH20 pH Tester, showing the top part where batteries are inserted.

### AcuRite 00613 Digital Hygrometer Setup:

1. **Battery Installation:** Open the battery compartment on the back of the unit. Insert one AA battery, observing the correct polarity. Close the compartment.
2. **Placement:** Place the hygrometer in the desired location. It can stand on a flat surface using its integrated stand, be clipped to a vent, or attached to a metal surface via its magnet.
3. **Initial Reading:** Allow the unit approximately 20 minutes to stabilize and display accurate readings after battery installation.



Image: The back of the AcuRite 00613 Digital Hygrometer, illustrating its clip and magnet for various mounting options.

## Operating Instructions

### Apera Instruments PH20 pH Tester Operation:

1. **Power On/Off:** Press the **MEAS** button to turn the tester on or off.
2. **Measurement:**
  - Rinse the electrode with distilled water before and after each measurement.

- Immerse the electrode into the sample solution, ensuring the sensor is fully submerged.
- Gently stir the solution and wait for the reading to stabilize (indicated by a stable icon on the display).
- Record the pH value.

### 3. Calibration:

- Prepare pH 4.00 and pH 7.00 buffer solutions.
- Turn on the tester. Press and hold the **CAL** button until "CAL" appears on the display.
- Rinse the electrode and immerse it in the pH 7.00 buffer solution. The tester will automatically recognize the buffer and calibrate. Wait for the stable icon.
- Rinse the electrode and immerse it in the pH 4.00 buffer solution. The tester will automatically recognize and calibrate. Wait for the stable icon.
- Calibration is complete when the display returns to measurement mode.



Apera quality pH sensor with low impedance,  
ensuring high reading speed and accuracy

Image: A close-up view of the Apera Instruments PH20 pH Tester's sensor tip, highlighting its design for accurate readings.

- **Reading Display:** The large digital display continuously shows the current indoor humidity percentage and indoor temperature (in Fahrenheit or Celsius).
- **High/Low Records:** The unit automatically tracks and displays the daily high and low temperature and humidity readings. These records reset every 24 hours.
- **Humidity Level Indicator:** An icon on the display indicates the humidity level:
  - **"OK":** Ideal humidity range.
  - **"LOW":** Humidity is too low.
  - **"HIGH":** Humidity is too high.
- **Temperature Unit Selection:** A small switch on the back of the unit allows you to toggle between Fahrenheit (°F) and Celsius (°C).



Image: The AcuRite 00613 Digital Hygrometer's display, illustrating the humidity level indicator and high/low records.

## Maintenance

### Apera Instruments PH20 pH Tester Maintenance:

- **Electrode Cleaning:** Regularly clean the electrode with distilled water. For stubborn contaminants, use a mild detergent solution or a specialized electrode cleaning solution.
- **Electrode Storage:** Always store the electrode in its protective cap filled with a small amount of KCL storage

solution (or pH 4.00 buffer solution if KCL is unavailable). Never store in distilled water.

- **Calibration Frequency:** Calibrate the pH tester regularly, especially if readings become inconsistent, after prolonged storage, or before critical measurements.
- **Battery Replacement:** Replace batteries when the low battery indicator appears on the display.

### AcuRite 00613 Digital Hygrometer Maintenance:

- **Cleaning:** Wipe the unit with a soft, damp cloth. Do not use abrasive cleaners or solvents.
- **Battery Replacement:** Replace the AA battery when the display dims or readings become erratic.
- **Storage:** If storing for an extended period, remove the battery to prevent leakage.

## Troubleshooting

### Apera Instruments PH20 pH Tester Troubleshooting:

Problem	Possible Cause	Solution
Inaccurate pH readings	Dirty electrode; electrode dry; expired buffer solutions; incorrect calibration.	Clean electrode; rehydrate electrode in storage solution; use fresh buffer solutions; recalibrate.
"Err" or "Lo" on display during calibration	Incorrect buffer solution; electrode not fully immersed; damaged electrode.	Ensure correct buffer is used; ensure electrode is fully immersed; replace electrode if damaged.
No power	Dead batteries; incorrect battery installation.	Replace batteries; check battery polarity.

### AcuRite 00613 Digital Hygrometer Troubleshooting:

Problem	Possible Cause	Solution
No display or dim display	Dead battery; incorrect battery installation.	Replace battery; check battery polarity.
Inaccurate readings	Unit not stabilized; extreme environmental conditions.	Allow 20 minutes for stabilization; ensure unit is not near heat/cold sources or direct sunlight.

## Specifications

### Apera Instruments PH20 pH Tester:

- **pH Range:** 0.0 to 14.0 pH
- **pH Accuracy:**  $\pm 0.1$  pH
- **Temperature Range:** 0 to 50°C (32 to 122°F)
- **Temperature Compensation:** Automatic (ATC)
- **Calibration:** Automatic, 1 to 3 points
- **Power:** 4 x AAA Batteries (included)
- **Battery Life:** Up to 2000 hours
- **Waterproof Rating:** IP67

### AcuRite 00613 Digital Hygrometer:

- **Humidity Range:** 1% to 99% RH
- **Temperature Range:** -4°F to 158°F (-20°C to 70°C)
- **Dimensions:** 3" H x 2.5" W x 1.3" D
- **Power:** 1 x AA Battery (not included, typically)
- **Mounting:** Flat stand, clip, magnet

## Warranty Information

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For specific warranty details regarding the Apera Instruments PH20 pH Tester, please refer to the documentation provided with the product or visit the official Apera Instruments website. The product is CE and RoHS certified, and manufactured under an ISO 9001:2015 certified quality system.

For the AcuRite 00613 Digital Hygrometer, please consult the manufacturer's official website or the documentation included in its packaging for warranty terms and conditions.

## Customer Support

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Should you require further assistance or have questions not covered in this manual, please contact the respective manufacturer's customer support:

- **Apera Instruments:** Visit their official website for support contact information, FAQs, and additional resources.
- **AcuRite:** Visit their official website for support contact information, product registration, and troubleshooting guides.

Always refer to the official product pages or manufacturer websites for the most up-to-date information and support.