PeakTech P 5310 A

PeakTech P5310 A Professional pH Meter User Manual

Brand: PeakTech | Model: P 5310 A

1. Introduction

This user manual provides comprehensive instructions for the safe and effective operation, setup, calibration, and maintenance of your PeakTech P5310 A Professional pH Meter. This device is designed for fast and precise measurement of pH levels in aqueous liquids, making it suitable for various applications including pools, aquariums, and laboratory use.

2. Safety Instructions

- Always handle the pH electrode with care.
- Do not immerse the main unit in water or other liquids.
- Keep the device away from extreme temperatures, direct sunlight, and high humidity.
- Use only the specified 9V battery for power.
- Store calibration solutions and electrode storage solution safely and out of reach of children.
- If the device is damaged, do not attempt to repair it yourself. Contact qualified service personnel.

3. Product Overview

3.1. Key Features

- Large 3 1/2 digit LCD display (max. 1999) with white backlight for clear readability.
- Replaceable BNC pH electrode for easy maintenance and versatility.
- Two calibration potentiometers (pH4 and pH7) located on the front panel for precise calibration.
- Powered by a standard 9V battery.
- Compact and practical design suitable for various environments.

3.2. Components Included

- PeakTech P5310 A pH Meter
- BNC pH Electrode
- Carrying Case

- pH 4.00 Calibration Solution
- pH 7.00 Calibration Solution
- Calibration Screwdriver
- 9V Battery (may be pre-installed or included separately)
- User Manual

3.3. Product Visuals



Figure 1: Front view of the PeakTech P5310 A pH Meter with the BNC electrode attached, showing a pH reading of 6.37 on its backlit LCD screen. The power button is visible on the right side, and calibration indicators for pH4 and pH7 are below the screen.



Figure 2: The PeakTech P5310 A pH Meter, its BNC electrode, calibration solutions (pH 4.00, pH 7.00, pH 10.01), a calibration screwdriver, and the user manual, all neatly organized within the included protective carrying case.


RANGE: 0.00 ~ 14.00 PH
RESOLUTION: 0.01 PH
ACCURACY: +/- 0.1 PH
OPERATING TEMP.: 0°C ~ 50°C
TEMP.COMPENSATION: 0°C ~ 50°C
BATTERY: DC 9V 6LR61
CE
PeakTech GmbH
Gerstenstieg 4 - 22926 Ahrensburg - www.peaktech.de
SENSOR

Figure 3: Rear view of the PeakTech P5310 A pH Meter, displaying key specifications such as range (0.00 ~ 14.00 pH), resolution (0.01 pH), accuracy (+/- 0.1 pH), operating temperature, and battery type (DC 9V 6LR61). The battery compartment cover is visible at the bottom.



Figure 4: A hand holding the PeakTech P5310 A pH Meter, with its electrode immersed in a beaker containing a pink liquid, demonstrating the device in active measurement. The display shows a reading of 3.95 pH.



Figure 5: A user calibrating the PeakTech P5310 A pH Meter. A small yellow screwdriver is inserted into one of the calibration potentiometers on the meter's front panel, with calibration solutions visible nearby, indicating the calibration process.



Figure 6: The PeakTech P5310 A pH Meter held by a hand, with its electrode submerged in a small beaker containing a yellow liquid. The meter's display shows a pH reading of 6.84, demonstrating its use in a laboratory or testing environment.



Figure 7: The PeakTech P5310 A pH Meter, its carrying case, electrode, calibration solutions, and screwdriver laid out on a surface, showcasing all components included with the product.



Figure 8: A close-up, angled view of the PeakTech P5310 A pH Meter, highlighting its large LCD display showing a pH reading of 6.73. The "POWER" button and the "CALIBRATION" indicators for pH4 and pH7 are clearly visible, along with the "PROFESSIONAL PH-METER" label.

4. Setup

4.1. Battery Installation

1. Locate the battery compartment on the back of the pH meter (refer to Figure 3).
2. Slide the battery compartment cover downwards to open it.
3. Insert a new 9V battery, ensuring correct polarity (+/-).
4. Replace the battery compartment cover by sliding it upwards until it clicks into place.

4.2. Electrode Connection

1. Carefully remove the protective cap from the BNC pH electrode. Ensure the electrode tip remains moist; if dry, rehydrate in electrode storage solution or pH 7 buffer for at least 30 minutes.
2. Connect the BNC connector of the pH electrode cable to the BNC input port on the bottom of the pH meter (refer to Figure 1). Twist gently to secure the connection.

5. Operating Instructions

5.1. Taking a Measurement

1. Press the **POWER** button to turn on the pH meter. The display will illuminate.
2. Rinse the electrode thoroughly with distilled or deionized water before each measurement. Gently blot dry with a lint-free tissue.
3. Immerse the electrode tip into the sample solution, ensuring the liquid level is above the glass bulb and reference junction.
4. Gently stir the solution to ensure homogeneity and allow the reading to stabilize. The reading on the LCD display will show the pH value (refer to Figure 4 and Figure 6).
5. Once the reading is stable, record the pH value.
6. After measurement, rinse the electrode again with distilled or deionized water and replace the protective cap, ensuring the electrode tip is kept moist with storage solution.

5.2. Reading the Display

The large LCD display shows the pH value in 3 1/2 digits. The white backlight ensures clear visibility even in low-light conditions. The display will show "PH" indicator on the top left corner.

6. Calibration

Regular calibration is essential for accurate pH measurements. The PeakTech P5310 A supports 2-point calibration using pH 4.00 and pH 7.00 buffer solutions.

1. Ensure the pH meter is turned on and the electrode is clean and properly connected.
2. Prepare fresh pH 7.00 buffer solution in a clean beaker.
3. Immerse the electrode into the pH 7.00 buffer solution. Allow the reading to stabilize.
4. Using the provided calibration screwdriver, gently turn the **pH7** potentiometer on the front panel (refer to Figure 5) until the display reads exactly 7.00.
5. Rinse the electrode with distilled water.
6. Prepare fresh pH 4.00 buffer solution in a separate clean beaker.
7. Immerse the electrode into the pH 4.00 buffer solution. Allow the reading to stabilize.
8. Using the calibration screwdriver, gently turn the **pH4** potentiometer on the front panel until the display reads exactly 4.00.
9. Rinse the electrode with distilled water. Your pH meter is now calibrated and ready for use.

Note: For measurements in alkaline ranges (pH > 7), it is recommended to also calibrate with a pH 10.01 buffer solution after pH 7.00 calibration, if available.

7. Maintenance

7.1. Electrode Care and Storage

- Always keep the electrode tip moist. Store the electrode with its protective cap filled with electrode storage solution (or pH 7 buffer if storage solution is unavailable). **Never store the electrode dry or in distilled/deionized water**, as this can damage the sensing bulb.
- Rinse the electrode thoroughly with distilled or deionized water before and after each use.
- If the electrode becomes sluggish or readings are unstable, try soaking it in electrode cleaning solution or a dilute acid solution (e.g., 0.1M HCl) for 15-30 minutes, followed by rinsing and rehydration in storage solution.

7.2. Cleaning the Meter

Wipe the main unit with a soft, damp cloth. Do not use abrasive cleaners or solvents. Ensure no liquid enters the meter's

internal components.

7.3. Battery Replacement

When the display dims or the meter fails to power on, replace the 9V battery as described in Section 4.1.

8. Troubleshooting

Problem	Possible Cause	Solution
Meter does not turn on.	Dead or incorrectly installed battery.	Check battery polarity; replace with a new 9V battery.
Unstable or fluctuating readings.	Electrode not properly hydrated or damaged. Insufficient immersion of electrode. Temperature fluctuations in sample. Contaminated electrode or sample. Interference from static electricity or strong magnetic fields.	Rehydrate electrode in storage solution for several hours. If still unstable, electrode may need replacement. Ensure electrode tip and reference junction are fully submerged. Allow sample to reach ambient temperature or use a temperature-compensated meter (this model has temp. compensation 0-50°C). Clean electrode thoroughly. Use fresh samples and buffers. Move meter away from potential sources of interference.
Cannot calibrate to correct pH value.	Expired or contaminated buffer solutions. Electrode is dirty or faulty. Calibration potentiometers are at their limit.	Use fresh, unexpired calibration buffer solutions. Clean the electrode. Rehydrate it. If calibration still fails, the electrode may need replacement. Ensure you are adjusting the correct potentiometer (pH7 for 7.00, pH4 for 4.00).
Display shows "1" or "OL".	Over-range or under-range reading.	The pH of the sample is outside the meter's measurable range (0.00 - 14.00 pH).

9. Specifications

Parameter	Value
pH Range	0.00 ~ 14.00 pH
pH Resolution	0.01 pH
pH Accuracy	+/- 0.1 pH
Operating Temperature	0°C ~ 50°C (32°F ~ 122°F)
Temperature Compensation	0°C ~ 50°C (32°F ~ 122°F)
Display	3 1/2 digit LCD with white backlight
Power Source	DC 9V (1 x 9V battery, type 6LR61)
Dimensions (L x W x H)	12.8 x 6.8 x 2.5 cm (5.04 x 2.68 x 0.98 inches)

Parameter	Value
Weight	587 grams (1.29 lbs)
Material	Plastic
Color	Blue

10. Warranty and Support

PeakTech products are manufactured with high quality standards. For information regarding warranty terms and conditions, please refer to the documentation included with your product or visit the official PeakTech website. For technical support or service inquiries, please contact PeakTech customer service.
This product is subject to a 30-day return policy if purchased from Amazon.

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Product Model: P 5310 A

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