Extech PH110

Extech PH110 Waterproof ExStik pH Meter Instruction Manual

Brand: Extech | Model: PH110

1. Introduction

The Extech PH110 Waterproof ExStik pH Meter is designed for accurate pH measurements in various substances. This device features a refillable pH electrode, allowing for extended use and consistent accuracy by replenishing the reference solution. Its robust, waterproof design ensures reliability in diverse environments.

2. Key Features

- Refillable pH electrode for extended service life.
- Analog bargraph display on LCD for trend indication.
- Waterproof construction to IP57 standard.
- Automatic 1, 2, or 3 point calibration with buffer solution recognition.
- Flat Surface Electrode capable of measuring pH in liquids, semi-solids, and solids.

3. Package Contents

The Extech PH110 Waterproof ExStik pH Meter package includes:

- Extech PH110 pH Meter with refillable pH electrode
- 1.5mL bottle of KCl (Potassium Chloride) solution
- Two reference junctions
- Two electrode removal tools
- Protective cap
- Sample cup

- Four 3V CR-2032 batteries (pre-installed or included separately)
- 48-inch (1.2m) neck strap

4. SETUP

4.1 Battery Installation

1. Ensure the meter is off.
2. Locate the battery compartment.
3. Insert four 3V CR-2032 Lithium Metal batteries, observing correct polarity.
4. Securely close the battery compartment.

4.2 Electrode Preparation

1. Remove the protective cap from the electrode.
2. Rinse the electrode tip with distilled water.
3. If the electrode appears dry, soak it in electrode storage solution or pH 7 buffer for at least 30 minutes before first use.

5. OPERATION

5.1 Calibration

Calibration is essential for accurate measurements. The PH110 supports 1, 2, or 3 point calibration and automatically recognizes buffer solutions.

1. Turn on the meter by pressing the **ON/OFF** button.
2. Prepare fresh pH buffer solutions (e.g., pH 4, 7, and 10). These are sold separately.
3. Press and hold the **CAL** button until 'CAL' appears on the display.
4. Immerse the electrode into the first buffer solution (e.g., pH 7). The meter will automatically recognize the buffer and calibrate. Wait for the reading to stabilize.
5. For 2 or 3 point calibration, rinse the electrode with distilled water and immerse it into the next buffer solution (e.g., pH 4, then pH 10). The meter will continue to calibrate automatically.
6. Ensure the display shows 'CAL' during the calibration process.

5.2 Measurement

The flat surface electrode allows for versatile measurements.

1. After calibration, rinse the electrode with distilled water.
2. Immerse the electrode into the sample to be measured. For liquids, ensure the electrode tip is fully submerged. For semi-solids or solids, ensure good contact with the flat surface electrode.
3. Allow the reading to stabilize on the display. The analog bargraph will indicate trends in acidity or

alkalinity.

4. To switch between pH and temperature display modes, press the **MODE** button.

5. After measurement, rinse the electrode thoroughly with distilled water and replace the protective cap.

Figure 1: The Extech PH110 pH meter, a handheld device with a digital display showing pH and temperature readings. It features three control buttons: MODE, CAL, and ON/OFF.

6. MAINTENANCE

6.1 Electrode Refilling

The refillable electrode design allows for prolonged accuracy and lifespan.

1. When the reference solution depletes or accuracy declines, use the provided removal tools to access the reference junctions.

2. Carefully refill the electrode with the 1.5mL KCl solution.

3. Ensure the reference junctions are properly re-seated after refilling.

Figure 2: A close-up view of hands refilling the Extech PH110 pH meter's electrode module with a specialized electrode filling solution from a small bottle. This process ensures the meter's continued accuracy and extends electrode life.

6.2 Cleaning and Storage

- Always rinse the electrode with distilled water after each use to prevent contamination.
- The flat surface electrode is designed for easy cleaning. Gently wipe with a soft cloth if necessary.
- Store the electrode with its protective cap filled with electrode storage solution (or pH 7 buffer if storage solution is unavailable) to keep the sensor hydrated. Do not store dry.

7. TROUBLESHOOTING

If the meter exhibits inaccurate readings or operational issues, consider the following:

- **Inaccurate Readings:** Recalibrate the meter using fresh buffer solutions. Ensure the electrode is clean and properly hydrated. Check if the reference solution in the electrode needs refilling.
- **No Display/Power Issues:** Verify that the batteries are correctly installed and have sufficient charge. Replace batteries if necessary.
- **Slow Response:** The electrode might be dry or contaminated. Clean and rehydrate the electrode, then recalibrate.

8. SPECIFICATIONS

Specification	Detail
Manufacturer	Extech
Part Number	PH110
Item Weight	3.87 ounces
Product Dimensions	6.8 x 1.6 x 1.4 inches
Item Model Number	PH110
Batteries	4 Lithium Metal batteries (CR-2032) required (included)

Power Source	Battery Powered
Waterproof Rating	IP57 standard
Calibration	1, 2, or 3 point automatic buffer recognition
Electrode Type	Refillable Flat Surface Electrode

9. WARRANTY INFORMATION

Extech provides a full one-year warranty on parts and workmanship for the PH110 pH Meter, unless otherwise specified. This warranty does not cover defects resulting from user actions such as misuse, improper wiring, operation outside of specified parameters, improper maintenance or repair, or unauthorized modifications.

10. SUPPORT

For further assistance, technical support, or to purchase accessories and replacement parts, please refer to the official Extech Instruments website or contact their customer service department. Contact information can typically be found on the manufacturer's packaging or website.