VIVOSUN 3-in-1 Digital Water Quality Meter & 3-Way Soil Tester Combo

VIVOSUN Digital pH, TDS, EC, and Temperature Meter with 3-Way Soil Tester User Manual

Model: 3-in-1 Digital Water Quality Meter & 3-Way Soil Tester Combo
Brand: VIVOSUN

1. Introduction

Thank you for choosing the VIVOSUN Digital pH, TDS, EC, and Temperature Meter with 3-Way Soil Tester. This comprehensive kit provides essential tools for monitoring water quality and soil conditions, crucial for healthy plant growth in various environments including homes, gardens, and hydroponic setups. This manual will guide you through the setup, operation, and maintenance of each device to ensure accurate and reliable measurements.

Image: The VIVOSUN pH, TDS, and Soil Tester Kit, highlighting its high accuracy, ease of use, and Automatic Temperature Compensation (ATC) function.

2. Product Overview

This kit includes three distinct measuring devices:

- **Digital pH Meter:** Measures the acidity or alkalinity of liquids.
- **3-in-1 TDS/EC/Temperature Meter:** Measures Total Dissolved Solids (TDS), Electrical Conductivity (EC), and

temperature of liquids.

- **3-Way Soil Tester:** Measures soil moisture, light intensity, and soil pH.

2.1 Digital pH Meter

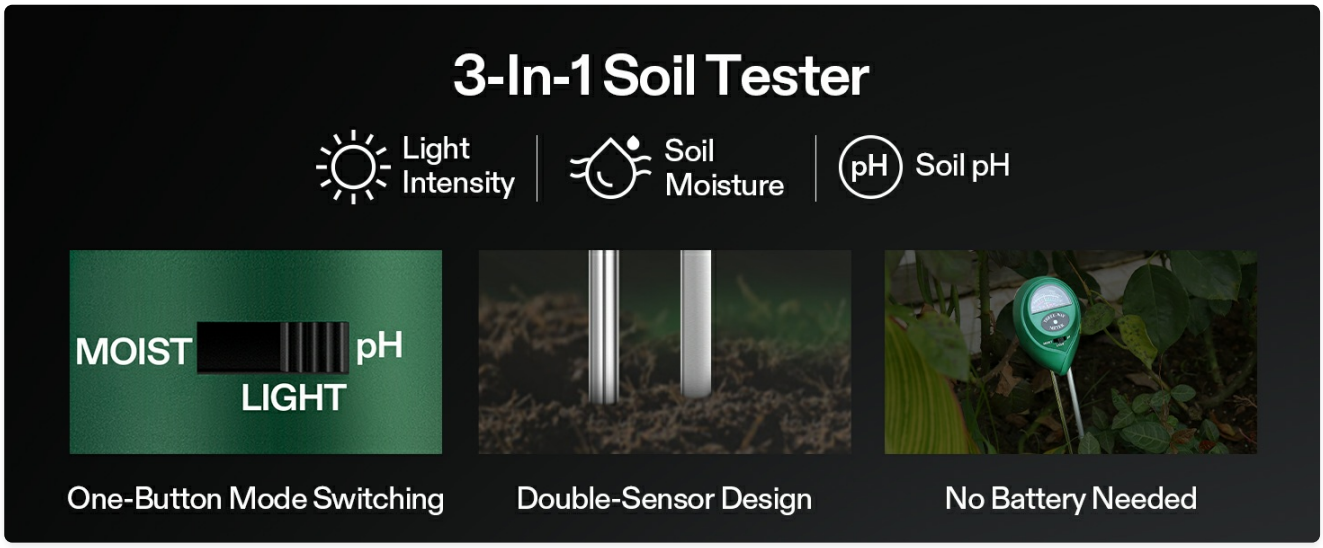

Image: Diagram of the VIVOSUN pH Tester, showing its protective cap, sensitive glass electrode, automatic calibration button, backlit LCD, and battery case.

The pH meter features a sensitive glass electrode for accurate readings and a backlit LCD for clear visibility. It includes an Automatic Temperature Compensation (ATC) function to ensure precise measurements across varying water temperatures.

2.2 3-in-1 TDS/EC/Temperature Meter

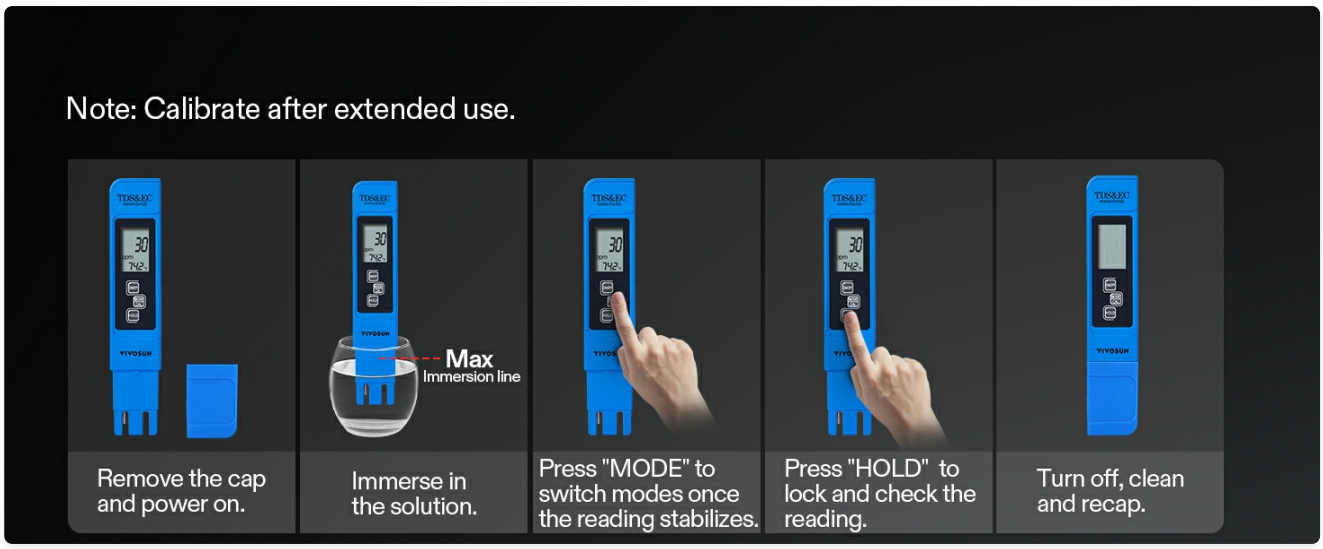

Image: Diagram of the VIVOSUN 3-in-1 TDS Tester, indicating its protective cap, high accuracy electrode, large LCD, and battery case. It measures TDS, EC, and Temperature.

This meter combines three essential measurements into one device. It features an agile titanium alloy electrode, automatic temperature compensation, and a hold function to lock readings for convenient viewing. It also has an auto-shutoff feature to conserve battery life.

2.3 3-Way Soil Tester

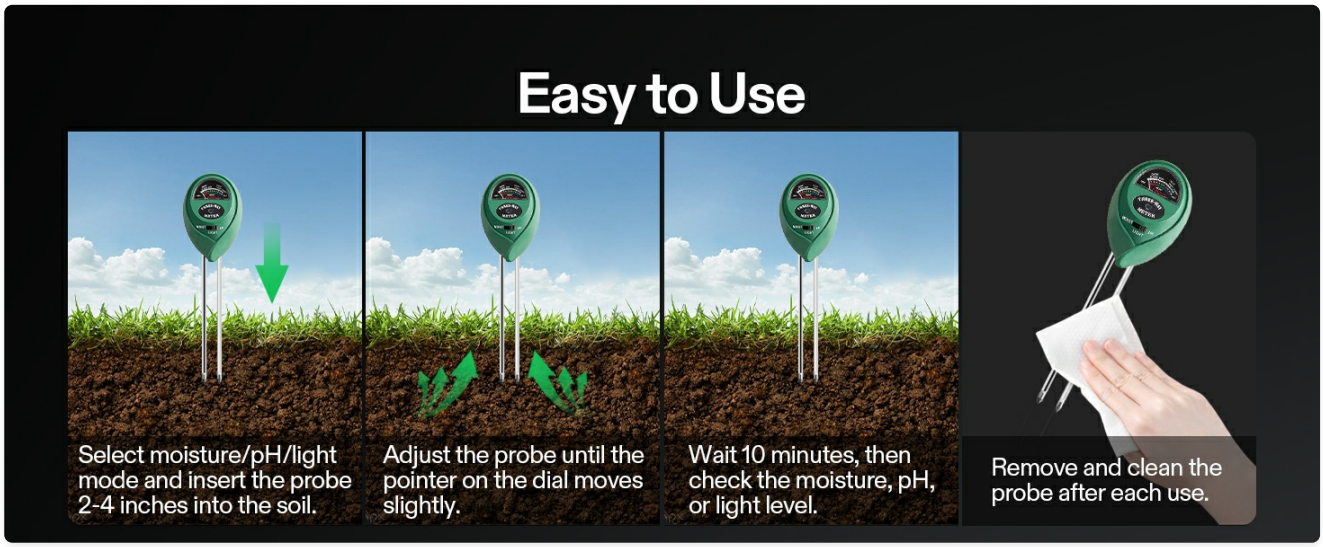

Image: Diagram of the VIVOSUN 3-in-1 Soil Tester, illustrating its functions for light intensity, soil moisture, and soil pH, with a one-button mode switching and double-sensor design. It requires no battery.

The soil tester is a battery-free device that measures three critical soil parameters: moisture, light intensity, and pH. It features a simple one-button switch to select the desired mode and a double-sensor design for measurement.

3. Setup and Calibration

3.1 Digital pH Meter Calibration

The pH meter requires calibration for accurate readings. It is recommended to calibrate before first use or after extended inactivity. Calibration powders for pH 4.00, pH 6.86, and pH 9.18 are typically included.

1. Prepare buffer solutions: Dissolve each pH buffer powder in 250ml of distilled water.
2. Remove the protective cap from the pH meter and turn it ON.
3. Immerse the electrode into the pH 6.86 buffer solution (or pH 7.00 if provided).
4. Gently stir and wait for the reading to stabilize. Press and hold the CAL button until the display shows 'CAL' and then the pH value (e.g., '6.86'). Release the button.
5. Rinse the electrode with distilled water.
6. Repeat steps 3-5 for pH 4.00 and pH 9.18 (or pH 10.00) buffer solutions.
7. After calibration, rinse the electrode and recap it.

Image: Step-by-step guide for calibrating the VIVOSUN pH meter, showing removal of cap, immersion in solution, waiting for stabilization, and turning off/re-capping.

3.2 3-in-1 TDS/EC/Temperature Meter Calibration

The TDS/EC meter is typically factory-calibrated. However, recalibration may be necessary after extended use or if readings appear inaccurate. Use a 1413 µS/cm EC standard solution for calibration.

1. Remove the protective cap and turn the meter ON.
2. Immerse the electrode into the 1413 µS/cm EC standard solution.
3. Gently stir and wait for the reading to stabilize.
4. Press and hold the CAL button until the display shows 'CAL' and then the EC value. Release the button.
5. Rinse the electrode with distilled water and recap it.

3.3 3-Way Soil Tester

The 3-Way Soil Tester is a passive device and does not require batteries or calibration. It operates by detecting electrical currents generated by the soil's properties.

4. Operating Instructions

4.1 Using the Digital pH Meter

1. Remove the protective cap.
2. Rinse the electrode with distilled water.
3. Turn the meter ON.
4. Immerse the electrode into the solution to be tested, ensuring the liquid level is below the maximum immersion line.
5. Gently stir and wait for the reading to stabilize on the LCD.
6. Record the pH value.
7. After use, rinse the electrode with distilled water and replace the protective cap.

Image: A hand holding the VIVOSUN pH meter immersed in a beaker of liquid, demonstrating its use. Key features like ATC function, backlit LCD, and glass electrode are highlighted.

4.2 Using the 3-in-1 TDS/EC/Temperature Meter

1. Remove the protective cap.
2. Turn the meter ON.
3. Immerse the electrode into the solution to be tested, ensuring the liquid level is below the maximum immersion line.
4. Gently stir and wait for the reading to stabilize.
5. Press the 'MODE' button to switch between TDS (ppm), EC (µS/cm), and Temperature (°C/°F) readings.
6. Press the 'HOLD' button to lock the current reading on the display for easier recording. Press again to release.
7. Record the desired values.
8. After use, rinse the electrode with distilled water and replace the protective cap.

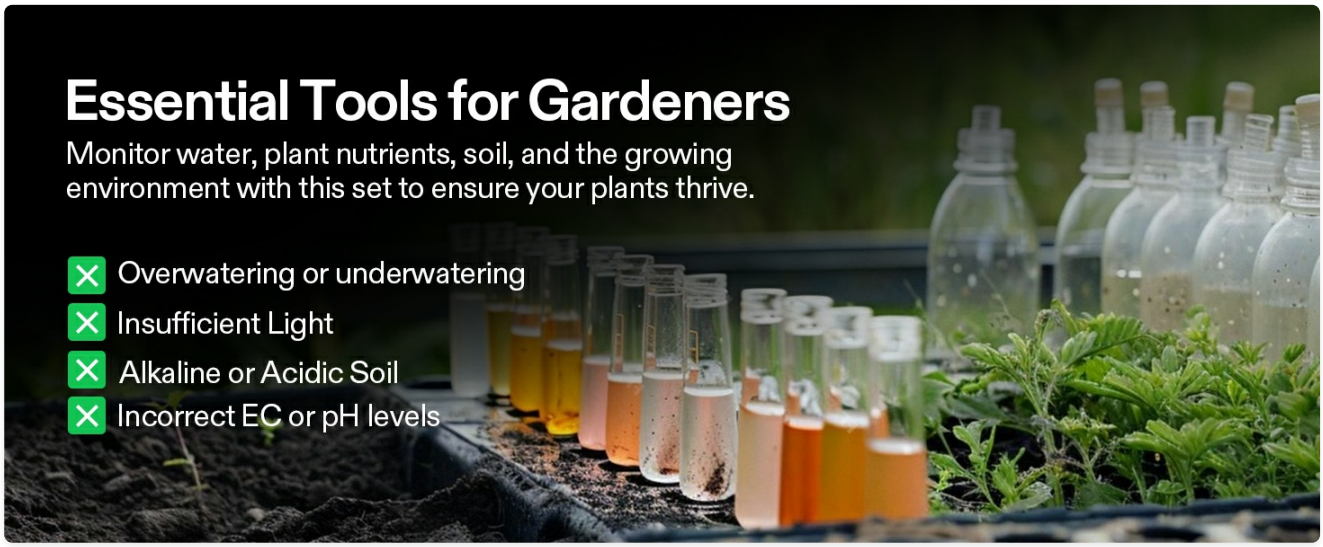

Image: Step-by-step guide for using the VIVOSUN TDS meter, showing removal of cap, immersion in solution, pressing 'MODE' to switch, pressing 'HOLD' to lock, and turning off/re-capping.

4.3 Using the 3-Way Soil Tester

1. Select the desired mode (MOIST, pH, or LIGHT) using the switch on the front of the meter.
2. Insert the probes 2-4 inches into the soil, ensuring the probes are fully embedded and making good contact with the soil. Avoid touching stones or hard objects.
3. For moisture and pH readings, wait approximately 10 minutes for the needle to stabilize.
4. For light readings, point the sensor towards the light source and observe the reading immediately.
5. Record the reading.
6. After each use, remove the probes from the soil and wipe them clean with a cloth.

Image: Step-by-step guide for using the VIVOSUN 3-Way Soil Tester, showing selecting mode, inserting probes into soil, adjusting until pointer moves, waiting for reading, and cleaning after use.

5. Maintenance

- **Cleaning Electrodes:** Always rinse the electrodes of the pH and TDS/EC meters with distilled water after each use to prevent contamination and ensure accuracy.
- **Soil Tester Probes:** Wipe the metal probes of the soil tester clean after each use to remove soil residue. Do not use water directly on the meter head.
- **Storage:** Store all meters with their protective caps on in a cool, dry place. For the pH meter, ensure the electrode is kept moist; if it dries out, soak it in distilled water for a few hours before use.
- **Recalibration:** Recalibrate the pH and TDS/EC meters regularly (e.g., monthly, or if readings become inconsistent) and always after changing batteries.
- **Battery Replacement:** Replace batteries in the pH and TDS/EC meters when the display becomes dim or the meter fails to power on. Refer to the specifications for battery types.

6. Troubleshooting

Problem	Possible Cause	Solution

Problem	Possible Cause	Solution
pH/TDS/EC meter shows inconsistent or drifting readings.	Lack of calibration, dirty electrode, air bubbles, expired buffer solution.	Recalibrate the meter using fresh buffer solutions. Clean the electrode thoroughly. Gently stir the solution to remove air bubbles.
pH/TDS/EC meter does not turn on or display is dim.	Low or dead batteries.	Replace batteries with new ones (pH meter: 2x1.5V LR44; TDS/EC meter: 1x3V CR2032).
Soil Tester readings are inaccurate or unresponsive.	Probes not fully inserted, soil too dry/compact, probes are dirty, incorrect mode selected.	Ensure probes are inserted 2-4 inches deep and make good contact with moist soil. Clean probes after each use. Verify the correct mode (MOIST, pH, LIGHT) is selected. Note that passive soil pH meters may have limited accuracy compared to digital pH meters for liquids.
pH meter electrode dries out.	Improper storage.	Soak the electrode in distilled water for several hours to rehydrate before use. Store with protective cap and ensure it remains moist.

7. Specifications

Feature	Digital pH Meter	3-in-1 TDS/EC/Temperature Meter	3-Way Soil Tester
Measuring Range	0.00-14.00 pH	TDS: 0-9990 ppm, EC: 0-9990 µS/cm, Temp: 0.1-80°C / 32-176°F	Moisture: 1-10 (Dry-Wet), pH: 3.5-8 (Acidic-Alkaline), Light: 0-2000 lux (Dark-Light)
Resolution	0.01 pH	1 ppm / 1 µS/cm / 0.1°C/°F	N/A (Analog)
Accuracy	±0.1 pH	TDS: ±2%, EC: ±2%	N/A (Approximate)
Automatic Temperature Compensation (ATC)	Yes (0-60°C / 32-140°F)	Yes (0.1-80°C / 32-176°F)	N/A
Power Supply	2 x 1.5V (LR44 Button Cell)	1 x 3V (CR2032 Button Cell)	No Battery Needed
Dimensions (Approx.)	6.1 x 1.22 x 0.71 inches	6.06 x 1.18 x 0.55 inches	10.8 x 1.8 inches
Weight (Approx.)	1.76 oz (50 g)	N/A	N/A

8. Warranty and Support

For warranty information, technical support, or customer service inquiries, please refer to the VIVOSUN official website or contact their customer support directly. Keep your purchase receipt for warranty claims.