# USER MANUAL

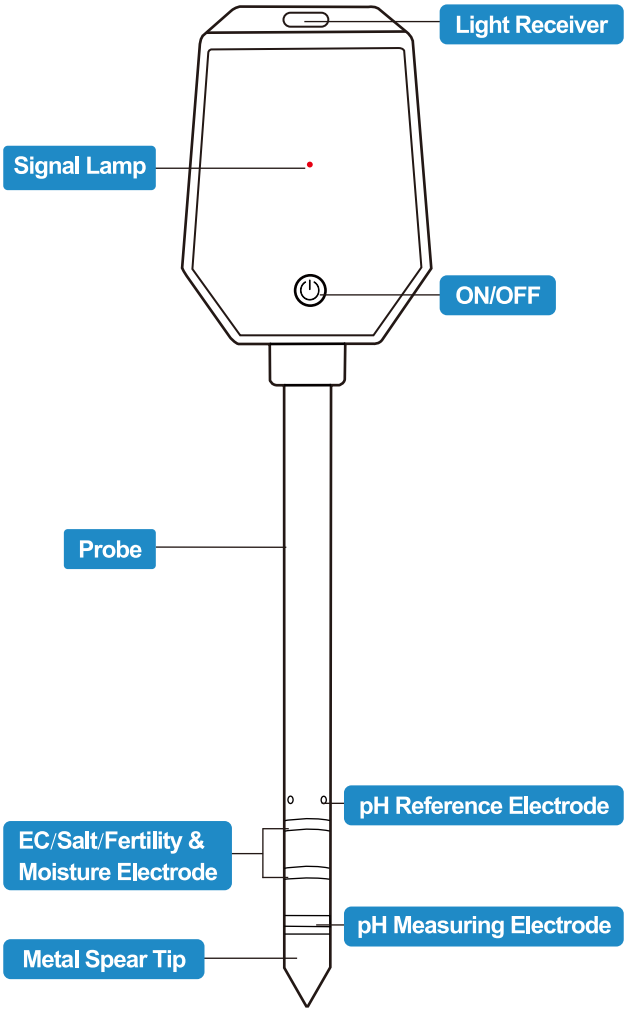
## 8in1 Soil Tester

Please read the instruction manual carefully before use

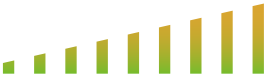
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# Product Overview



# Measuring Range

<table>
<tr><th colspan="4">8-in-1 Soil Tester</th></tr>
<tr><td rowspan="12">Range/<br>Accuracy</td><td>Fertility</td><td colspan="2">0-99%</td><td>Accuracy±1%</td></tr>
<tr><td>SALT</td><td colspan="2">0-5110mg/L</td><td>Accuracy<br>±1mg/L</td></tr>
<tr><td rowspan="2">EC</td><td colspan="2">0.01mS/cm<br>-9.99mS/cm</td><td>Accuracy<br>±0.01mS/cm</td></tr>
<tr><td colspan="2">Calibration</td><td>1413μs/cm</td></tr>
<tr><td rowspan="2">Soil pH<br>Meter</td><td colspan="2">0.0-14.0</td><td>Accuracy<br>±0.1</td></tr>
<tr><td colspan="2">Calibration</td><td>7.0-4.0-10.01</td></tr>
<tr><td rowspan="2">Sunlight<br>Intensity</td><td colspan="3"></td></tr>
<tr><td>Low</td><td>Nor</td><td>High</td></tr>
<tr><td rowspan="3">Soil Moisture<br>Meter</td><td></td><td></td><td></td><td></td></tr>
<tr><td>Dry</td><td>Nor</td><td>Wet</td><td>Wet+</td></tr>
<tr><td colspan="4">WET+ Icons Behave as<br>Follows:6 always on, 4 blinking</td></tr>
<tr><td>Environment<br>Humidity</td><td colspan="2">1-100%</td><td>Accuracy ±1%</td></tr>
<tr><td>Soil Temp</td><td colspan="2">0.0~80℃<br>32.0~176°F</td><td>±0.5℃/±1°F</td></tr>
<tr><td>Batteries</td><td colspan="4">AAA 1.5V*4</td></tr>
</table>

# Basic Operation

## Using the Kactoily App

**1. Download the Kactoily App**
Search for the "Kactoily" app in the **Google Play Store** or **Apple App Store**, then download and install it.

**2. Enable Bluetooth and Location**
Turn on Bluetooth and location services on your phone. **These two permissions are essential for the "Kactoily" app to work correctly.**

**3.Connect and Use**
Press and hold the power button for 2 seconds, then release it when the red light flashes. Once connected, you can view the readings and perform calibration within the app.

**4. Turn Off The Device When Not In Use**
Press and hold the power button for 2 seconds, then release it. The device will power off.

## How to Replace the Battery



**Open the battery cover** | **Remove the batteries** | **Loaded with 4 AAA batteries**

# Soil Testing Methods

## Conventional Soil Testing Method

1. Insert the soil tester probe into the soil to a depth of at least 2.7 inches (7 cm).

2. Wait approximately 10 seconds for the sensor to stabilize and display a reading.

3.For potted plants, a single measurement is sufficient. For gardens or larger planting areas, take multiple readings from different locations and calculate the average for more accurate results.

## Scientific Soil Nutrient Analysis

1. Use a soil sampler to collect a representative soil sample.

2. Add deionized water to the soil sample and mix thoroughly. Allow the mixture to settle until the solid and liquid components separate. Carefully decant the clear supernatant (liquid).

3. Analyze the liquid extract using our professional soil tester.

4. This method provides a more scientific and precise assessment of soil nutrient levels.

# Operation Notes

## APPLIES TO:



Organic Gardening



Ornamental Landscapes



Kitchen Composter



Composting



Plant Pots



Ground Seedlings

## NOT SUITABLE FOR:



Full Roots



Plants Ash



Hard/Dry Soil



Rock Soil

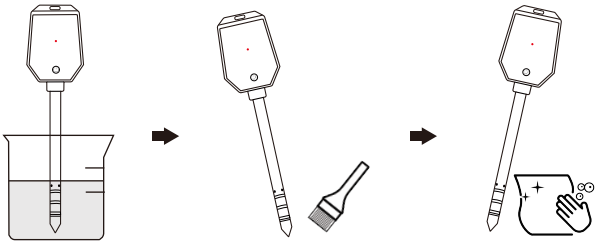


Coconut Soil



Slury Soil

## Improve sensitivity



Soak the probe in the alcohol for 10 minutes

Clean with the brush

Dry with a cloth

# Frequently Asked Questions

**1.Why can't my device connect to the app?**

If you're having trouble connecting, please try the following steps:
1.Please make sure the app's Bluetooth and Location permissions are enabled in your phone settings.
2.Please restart the app and your device, then try connecting again.
3.Please confirm that the device's indicator light is flashing, which means the device is ready to connect.
4.For Android users: If you've tried multiple times and still cannot connect, please close the app and clear your phone's cache before reopening the app and trying again.

**2.Is there anything I need to be aware of when using the product?**

1.Insert the probe into the soil at least 2.7 inches (7 cm) deep

2.Do not test extremely hard or compacted soil
3.Ensure soil fully contacts the probe
4.Always keep the area above the probe's sensor dry. It contains key components, so avoid getting it wet or applying pressure.

**3.Do I need to calibrate the device when I first receive it?**

It is ready to use upon receipt. If it hasn't been used for an extended period or if the readings appear inaccurate, please perform calibration.

**4.How often does it need to be calibrated?**

We recommend calibrating the pH value every 4-6 months, and the EC value once a year. For frequent use, you can shorten the calibration interval by half.

**5.Why does soil pH read higher when dry and lower when wet?**

This is a normal phenomenon caused by the influence of soil moisture on pH measurements. When the soil is dry, water evaporation leads to the accumulation of alkaline ions (such as calcium, magnesium, and sodium) near the surface, resulting in higher pH readings — sometimes even approaching extreme values close to 14. This does not necessarily mean the soil is truly strongly alkaline; rather, it indicates that the soil needs watering. Conversely, when the soil is too wet, ions become diluted and redistributed, causing the measured pH value to temporarily drop.
Recommendation:
For more accurate and stable results, it is recommended to test about 12-24 hours after

watering, when the soil is slightly moist. At this point, the soil moisture and ion distribution are relatively balanced, and the reading will be closer to the true value.

### 6.Why do the readings vary in different areas of the garden?

The variations are often due to differences in soil type. For example, regular soil and mixed (composite) soil can produce different readings. Mixed soils are typically more porous and less cohesive, which can affect moisture detection. Additionally, soil compaction plays a role—compacted soil and loose soil can yield different results.

### 7.Can the soil tester be used in a kitchen composter?

Yes, it can. It helps you assess the nutrient levels in the soil produced from your food waste.

### 8.Can the soil tester be used to test nutrient solution?

Yes, it can. However, please ensure that only the sensor comes into contact with the liquid.

### 9.Can the soil tester be connected to HomeAssistant smart devices?

No, it cannot. The tester uses Bluetooth, not the internet, so it works without an internet connection.

Note: Even highly precise instruments may have minor errors. If results are near the limit or outside the expected range, please retest using other equipment, recalibrate, or contact us if needed.