OBEST 8 in 1

OBEST Digital Water Quality Tester 8-in-1 User Manual

Model: 8 in 1 | Brand: OBEST

Introduction

The OBEST 8-in-1 Digital Water Quality Tester is a versatile and high-accuracy pen-type device designed for comprehensive water analysis. It integrates multiple measurement functions including TDS (Total Dissolved Solids), pH, EC (Electrical Conductivity), Salinity, Temperature, H2 (Hydrogen content), ORP (Oxidation-Reduction Potential), and S.G (Specific Gravity of seawater). This manual provides detailed instructions for the proper setup, operation, maintenance, and troubleshooting of your device to ensure accurate and reliable measurements for various applications such as drinking water, pools, aquariums, spas, and hydroponics.

Key Features

- **8-in-1 Functionality:** Measures TDS, pH, EC, Salinity, Temperature, H2, ORP, and S.G.
- **High Accuracy:** Features 0.01pH resolution and precise measurements for all parameters.
- **Easy to Read Display:** Backlit LCD for clear visibility of readings.
- **Quick Display:** Provides rapid and stable readings.
- **Durable and Waterproof:** IP67 rated design ensures protection against water and dust.
- **Automatic Temperature Compensation (ATC):** Ensures accuracy across varying temperatures.
- **Temperature Unit Conversion:** Easily switch between Celsius (°C) and Fahrenheit (°F).
- **Data Hold Function:** Short press to hold the current reading for easy recording.

Package Contents

Please check the package contents upon opening to ensure all items are present and undamaged.



Image: Contents of the OBEST 8-in-1 Water Quality Tester package. It includes the main tester unit, pH buffer powders (4.00, 6.86, 9.18), ORP buffer powder, and an operation manual.

- 1 x OBEST 8-in-1 Digital Water Quality Tester
- 3 x pH Buffer Powders (pH 4.00, pH 6.86, pH 9.18)
- 1 x ORP Buffer Powder
- 1 x Operation Manual

Setup

1. **Battery Installation:** The device typically comes with batteries pre-installed. If not, open the battery compartment (usually at the top or back) and insert the specified batteries, observing polarity.
2. **Initial Power On:** Press the power button (usually marked with a power symbol) to turn on the tester. The backlit LCD display should illuminate.
3. **Familiarization:** Take a moment to identify the buttons: Power, HOLD/TEMP, and MODE/CAL.

Operating Instructions

This section details the general operation and specific functions of the OBEST 8-in-1 Water Quality Tester.

General Measurement Procedure:

1. **Power On:** Press the power button to turn on the device.
2. **Select Mode:** Press the **MODE/CAL** button repeatedly to cycle through the different measurement modes (TDS, pH, EC, Salinity, H2, ORP, S.G). The current mode will be indicated on the display.
3. **Immerse Probe:** Gently immerse the electrode tip of the tester into the water sample, ensuring the sensor is fully submerged.
4. **Stabilize Reading:** Wait for the reading on the LCD display to stabilize. This usually takes a few seconds.
5. **Hold Reading:** To freeze the current reading on the display, short press the**HOLD/TEMP** button. Press it again to release the hold.
6. **Record Data:** Note down the stable reading.
7. **Clean and Store:** After each use, rinse the electrode with distilled water and cap it to protect the sensor.

Specific Measurement Functions:

pH Testing



Image: The tester showing a pH reading of 7.28, with an accompanying chart illustrating pH levels from acidic to alkaline and the recommended range for drinking water (6.5-9.5).

The pH function measures the acidity or alkalinity of the water. The display will show the pH value. Drinking water pH standard is typically 6.5-9.5. Ensure the device is calibrated for accurate pH readings.

TDS (Total Dissolved Solids) Testing

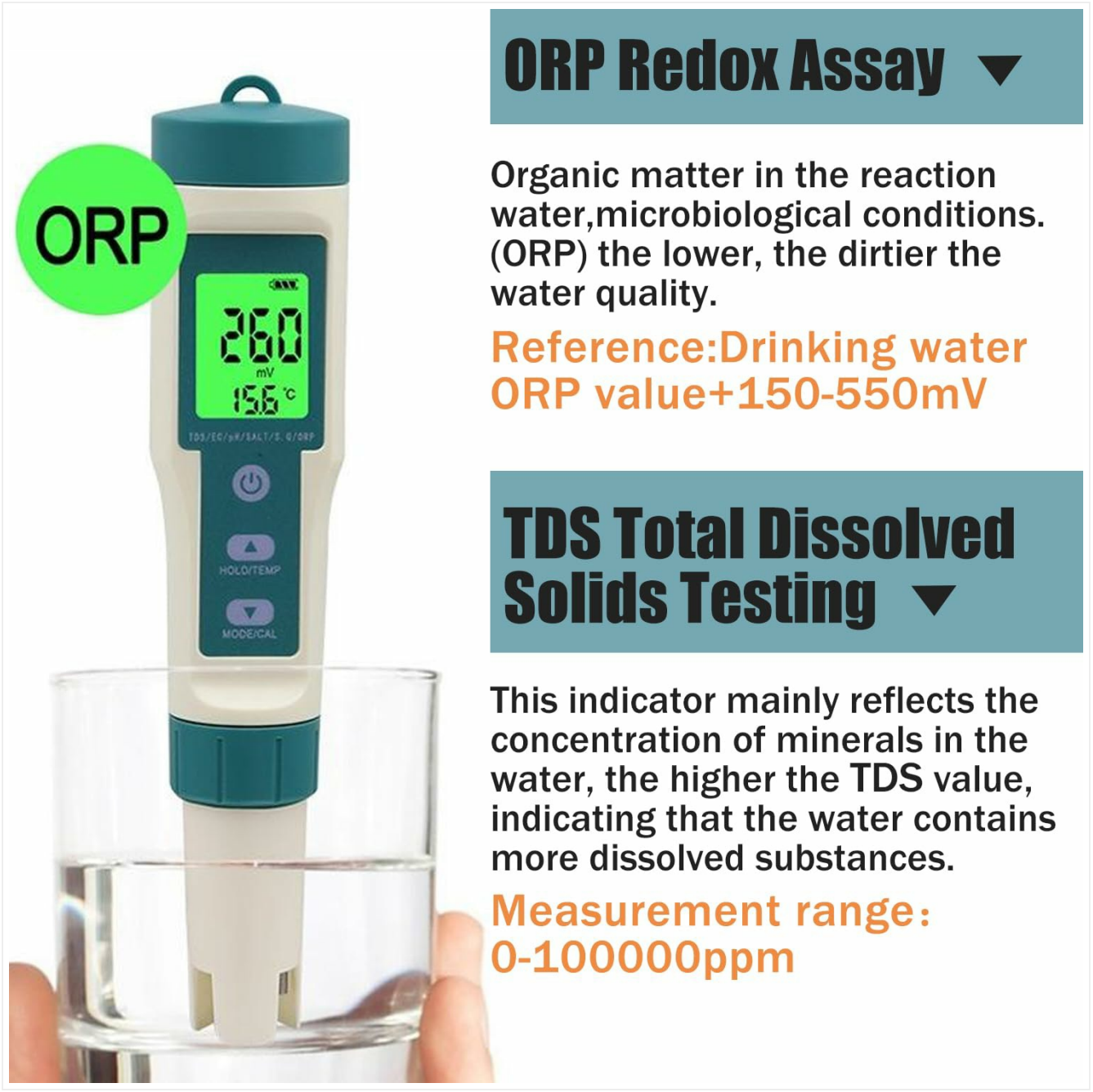


Image: The tester showing a TDS reading. The text explains that TDS reflects the concentration of minerals and dissolved substances in water, with higher values indicating more dissolved substances. Measurement range: 0-100000ppm.

TDS measures the total concentration of dissolved substances in water. A higher TDS value indicates more dissolved minerals and salts. This is crucial for assessing water purity.

EC (Electrical Conductivity) Testing



Image: The tester immersed in a glass of water, showing an EC reading of 202 µS/cm and a temperature of 30.6°C.

EC measures the electrical conductivity of water, which is directly related to the concentration of ionized solids in the water. It is often used in conjunction with TDS.

Salinity Testing

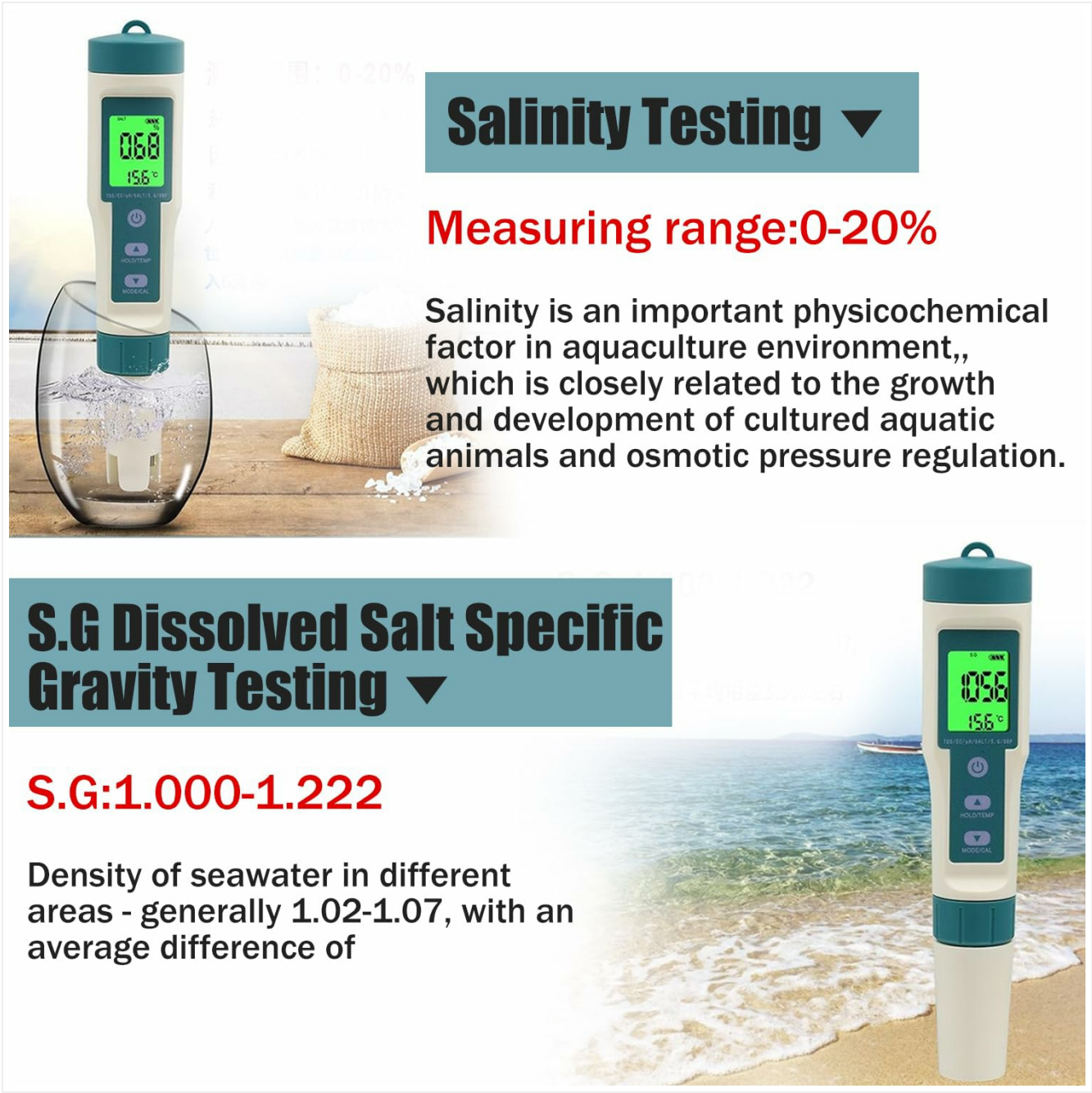


Image: The tester showing a salinity reading of 0.68% with a background of salt and water. The text highlights salinity as an important physicochemical factor in aquaculture environments. Measurement range: 0-20%.

This function measures the salt content in water, crucial for applications like aquariums, aquaculture, and sea water analysis.

Temperature Measurement



Image: The tester displaying temperature in Celsius (30.6°C) and Fahrenheit (87.1°F), with arrows indicating one-click conversion. Instructions note to long press HOLD/TEMP to switch units and short press to hold data.

The tester displays temperature in both Celsius and Fahrenheit. Long press the**HOLD/TEMP** button to switch between units.

H2 (Hydrogen Content) Testing



Image: The tester showing an H2 reading of 1443 ppb. The text explains that hydrogen water can delay oxidation and regular consumption can slow the aging process. Measurement range: 0-2400 ppb.

Measures the concentration of dissolved hydrogen in water, often relevant for hydrogen-enriched water.

ORP (Oxidation-Reduction Potential) Testing

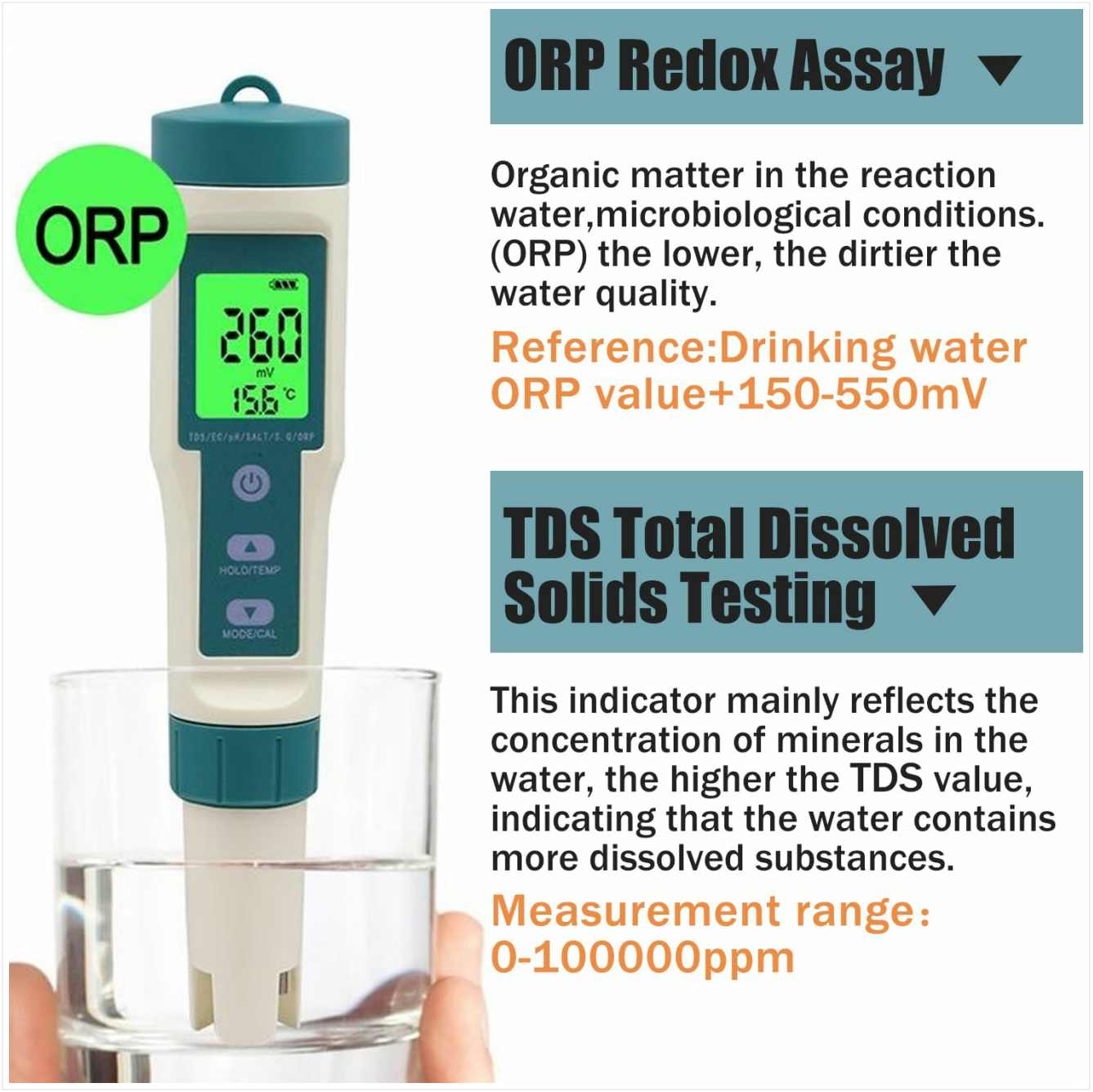


Image: The tester showing an ORP reading of 260 mV. The text explains that ORP indicates the presence of organic matter and microbiological conditions, with lower ORP values suggesting dirtier water. Reference for drinking water ORP: +150-550mV.

ORP measures the ability of water to oxidize or reduce contaminants. A lower ORP value generally indicates dirtier water. Calibration is important for accurate ORP readings.

S.G (Specific Gravity) Sea Water Meter



Image: The tester showing an S.G. reading of 1.056 with a beach background. The text explains S.G. as the density of seawater, typically ranging from 1.02-1.07. Measurement range: 1.000-1.222.

Measures the specific gravity of seawater, which is its density relative to fresh water. This is particularly useful for marine aquariums and oceanography.

Calibration

Regular calibration ensures the accuracy of your water quality tester. It is recommended to calibrate the pH and ORP functions periodically, especially after prolonged storage or if readings appear inconsistent.

pH Calibration Procedure:

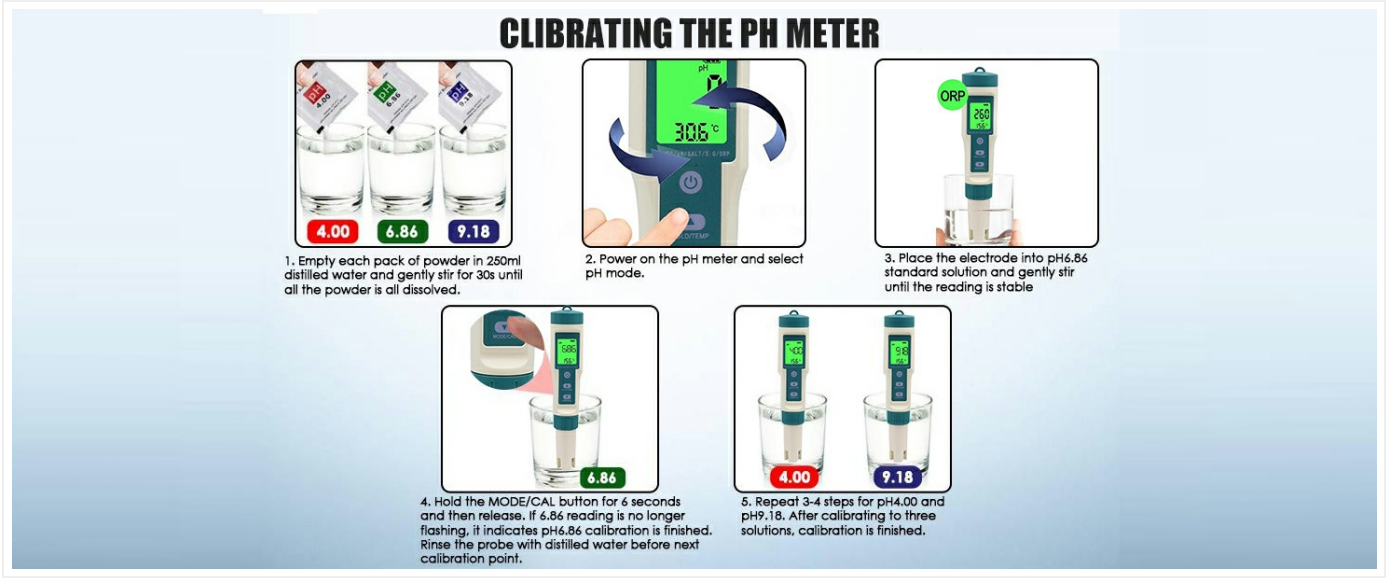


Image: A visual guide demonstrating the pH calibration process using 4.00, 6.86, and 9.18 pH buffer solutions. It shows dissolving powders, powering on, immersing the electrode, and holding the MODE/CAL button for calibration.

1. **Prepare Buffer Solutions:** Empty each packet of pH buffer powder (4.00, 6.86, 9.18) into separate clean beakers or containers. Add 250ml of distilled water to each and stir gently until the powder is completely dissolved.
2. **Power On and Select pH Mode:** Turn on the tester and press the **MODE/CAL** button until "pH" mode is displayed.
3. **Calibrate with pH 6.86:** Rinse the electrode with distilled water. Immerse the electrode into the pH 6.86 standard solution.
4. **Initiate Calibration:** Long press the **MODE/CAL** button for 6 seconds. The reading will start flashing. Release the button when the reading stabilizes and stops flashing, indicating successful calibration for pH 6.86.
5. **Calibrate with pH 4.00:** Rinse the electrode with distilled water. Immerse the electrode into the pH 4.00 standard solution. Repeat the long press of the **MODE/CAL** button for 6 seconds until the reading stabilizes.
6. **Calibrate with pH 9.18:** Rinse the electrode with distilled water. Immerse the electrode into the pH 9.18 standard solution. Repeat the long press of the **MODE/CAL** button for 6 seconds until the reading stabilizes.
7. **Completion:** After calibrating with all three solutions, the pH calibration is complete.

ORP Calibration Procedure:

1. **Prepare Buffer Solution:** Empty the ORP buffer powder packet into a clean beaker. Add 250ml of distilled water and stir gently until dissolved. (Note: The ORP buffer powder is typically 256mV or similar).
2. **Power On and Select ORP Mode:** Turn on the tester and press the **MODE/CAL** button until "ORP" mode is displayed.
3. **Immerse Electrode:** Rinse the electrode with distilled water. Immerse the electrode into the ORP standard solution.
4. **Initiate Calibration:** Long press the **MODE/CAL** button for 6 seconds. The reading will start flashing. Release the button when the reading stabilizes and stops flashing, indicating successful ORP calibration.
5. **Completion:** ORP calibration is complete.

Important Note: Always rinse the electrode with distilled water before and after each calibration step and before testing different samples to prevent cross-contamination.

Maintenance

- **Cleaning the Electrode:** After each use, rinse the electrode thoroughly with distilled or deionized water. Do not use tap water as it may contain minerals that can affect future readings. Gently wipe with a soft cloth if necessary, but

avoid scratching the sensor.

- **Storage:** Always replace the protective cap on the electrode when not in use to prevent it from drying out. Store the tester in a cool, dry place, away from direct sunlight and extreme temperatures.
- **Battery Replacement:** If the display becomes dim or the device does not power on, replace the batteries. Refer to the battery compartment for the correct battery type and polarity.
- **Regular Calibration:** Calibrate the pH and ORP functions regularly (e.g., monthly, or if readings seem off) to maintain accuracy.

Troubleshooting

Problem	Possible Cause	Solution
Display is dim or blank.	Low or dead batteries.	Replace batteries with new ones.
Readings are unstable or fluctuating.	Electrode not fully immersed; air bubbles on sensor; dirty electrode; interference.	Ensure full immersion; gently tap to remove bubbles; clean electrode; move away from electrical devices.
Inaccurate pH or ORP readings.	Needs calibration; expired buffer solutions; dirty electrode.	Perform calibration using fresh buffer solutions; clean electrode thoroughly.
Calibration fails or does not stabilize.	Incorrect buffer solution used; electrode damage; insufficient stirring of buffer.	Verify buffer solution type and concentration; ensure buffer powder is fully dissolved; contact support if electrode is suspected to be damaged.
Device does not respond to button presses.	Device frozen; low battery.	Remove and reinsert batteries to reset; replace batteries.

Specifications

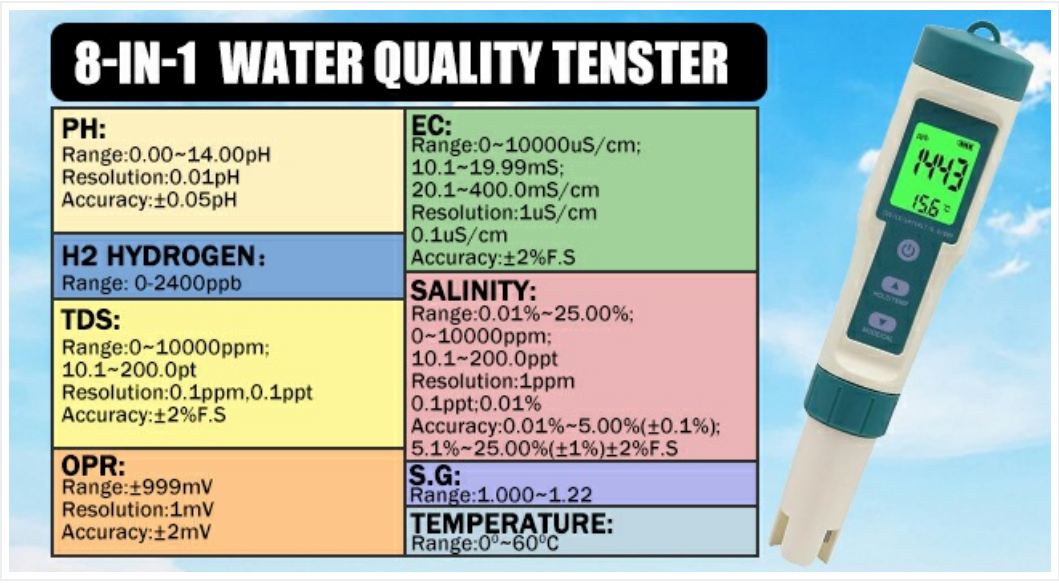


Image: A detailed table outlining the measurement ranges, resolutions, and accuracies for pH, EC, H2, TDS, ORP, Salinity, S.G, and Temperature.

Parameter	Range	Resolution	Accuracy
pH	0.00-14.00pH	0.01pH	±0.05pH
EC	0-10000µS/cm; 10.1-19.99mS/cm; 20.1-400.0mS/cm	1µS/cm; 0.1mS/cm	±2% F.S
H2 (Hydrogen)	0-2400ppb	1ppb	±2% F.S
TDS	0-10000ppm; 10.1-200.0ppt	0.1ppm; 0.1ppt	±2% F.S
ORP	±999mV	1mV	±2mV
Salinity	0.01%-25.00%; 0-10000ppm; 10.1-200.0ppt	0.01%; 1ppm; 0.1ppt	0.01-5.00%(±0.1%); 5.1%-25.00% (±1%) ±2% F.S
S.G	1.000-1.22	0.001	N/A
Temperature	0-60°C (32-140°F)	0.1°C/°F	±0.5°C

Additional Specifications:

- **Waterproof Rating:** IP67
- **Automatic Temperature Compensation (ATC):** Yes
- **Display:** Backlit LCD
- **Power Source:** (Typically button cell batteries, e.g., LR44 x 3, though not explicitly stated in JSON, common for pen testers)
- **Dimensions:** Approximately 20.9 x 7.9 x 4.8 cm (from Parcel Dimensions)
- **Weight:** Approximately 130 g (from Parcel Dimensions)

Application Areas

The OBEST 8-in-1 Digital Water Quality Tester is suitable for a wide range of applications, including but not limited to:



Image: A collage of images depicting various uses for the water quality tester, including testing water for drinking, food salinity, fish tanks, aquariums, farmland irrigation, swimming pools, aquaculture, laboratories, and industrial wastewater.

- Drinking Water Quality Testing
- Pool and Spa Water Management
- Aquarium and Fish Tank Monitoring
- Hydroponics and Plant Cultivation
- Laboratory Analysis
- Industrial Wastewater Treatment
- Food Processing (e.g., food salinity)
- Agricultural Irrigation

Warranty and Support

OBEST products are designed for reliability and performance. For any questions, technical assistance, or warranty claims, please refer to the contact information provided with your purchase documentation or visit the official OBEST website.

Please retain your proof of purchase for warranty purposes.

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