**AquaCheck-7 Pro**

**AquaCheck-7 Pro Tester Instruction Manual**

Model: LD-AC7-PRO | Brand: LODORE

## 1. Introduction

The AquaCheck-7 Pro is a versatile 7-in-1 multi-functional water quality tester designed for comprehensive analysis of various water sources. It accurately measures Free Available Chlorine (FAC), pH, Salinity, Oxidation-Reduction Potential (ORP), Total Dissolved Solids (TDS), Electrical Conductivity (EC), and Temperature. This device is ideal for monitoring water quality in swimming pools, hot tubs, spas, aquariums, hydroponic systems, drinking water, and more, ensuring optimal conditions and safety.


Figure 1: AquaCheck-7 Pro Tester highlighting its multiple measurement capabilities.

## 2. Product Overview

**Key Features:**

- **7-in-1 Measurement:** Measures FAC, pH, Salinity, ORP, TDS, EC, and Temperature.

- **Backlit LCD Display:** Provides clear readings even in dimly lit environments.
- **Data Retention (HOLD):** Allows users to freeze the current reading on the screen.
- **Automatic Temperature Compensation (ATC):** Ensures accurate readings across a temperature range of 0-60°C.
- **Automatic Shut-off:** Conserves battery life by turning off after 5 minutes of inactivity.
- **Waterproof Design:** Probe section is IP67 waterproof and submersible.
- **Replaceable Probes:** Features highly sensitive, removable, and replaceable electrodes for easy maintenance.
- **Battery Powered:** Operates on 4*1.5V LR44 button batteries (not included).

**What's in the Box:**

- AquaCheck-7 Pro Multi-functional Water Quality Tester
- Instruction Manual
- Calibration Fluids (pH4.00, pH7.00, ORP222mV) - *Note: Availability of calibration fluids may vary by package type.*

Figure 2: Package contents of the AquaCheck-7 Pro Tester.

## 3. Setup

### 3.1 Battery Installation

1. Unscrew the battery compartment cover located at the top of the device.
2. Insert 4*1.5V LR44 button batteries, ensuring correct polarity.
3. Securely screw the battery compartment cover back on.


Figure 3: Labeled components of the AquaCheck-7 Pro Tester, including the battery compartment.

### 3.2 Initial Check

1. Press the 'ON/OFF' button to power on the device.
2. The LCD display will light up, showing various measurement parameters.
3. Press the 'MODE/CAL' button repeatedly to cycle through the different measurement modes (pH, TDS, Salt, EC, ORP, FAC, Temp) to familiarize yourself with the display.
4. Remove the protective cap from the probe before use.

Video 1: Product demonstration showing power-on and mode switching.

## 4. Operating Instructions

### 4.1 Basic Measurement

1. Ensure the device is powered on and the protective cap is removed from the probe.
2. Immerse the probe into the water sample you wish to test. Ensure the probe is fully submerged.
3. Press the 'MODE/CAL' button to select the desired measurement parameter (e.g., pH, FAC, Salt).
4. Wait for the reading on the LCD display to stabilize. The reading will show the measured value and temperature.
5. For accurate FAC readings, ensure the pool water pH is between 6.5-8 and ORP is between 487-840mV.


Figure 4: The AquaCheck-7 Pro Tester in use for water quality measurement.

### 4.2 Data Hold Function

- During measurement, a short press of the 'HOLD/TEMP' button will freeze the current reading on the display. An 'H' icon will appear on the screen.

- Press 'HOLD/TEMP' again to release the hold and resume live measurement.

### 4.3 Temperature Unit Conversion

- To switch the temperature unit between Celsius (°C) and Fahrenheit (°F), long press the 'HOLD/TEMP' button.


Figure 5: Functions of the HOLD/TEMP button.

## 5. Calibration

The AquaCheck-7 Pro Pool Tester is factory-calibrated for all functions. It is recommended to recalibrate the meter every 2-4 weeks to maintain optimal accuracy, or if you suspect inaccurate readings.

### 5.1 Calibration Solutions

Use standard buffer solutions for calibration:

- **pH Calibration:** pH 6.86, pH 4.00, pH 9.18
- **ORP Calibration:** ORP 222mV


Figure 6: Calibration buffer solutions for pH and ORP.

**5.2 Calibration Procedure**

For detailed calibration steps for each parameter (pH, ORP, EC, TDS, Salinity), please refer to the specific instructions provided in the physical instruction manual included with your product. The general process involves:

1. Prepare the appropriate calibration solution.
2. Immerse the probe into the calibration solution.
3. Enter calibration mode by long-pressing the 'MODE/CAL' button (or as specified in the manual).
4. Adjust the reading to match the known value of the calibration solution.
5. Confirm calibration and exit the mode.

**6. Specifications**

| Parameter | Range | Resolution |
|---|---|---|
| pH | 0.1-14.0 pH | 0.1 pH |
| FAC (Free Available Chlorine) | 0.1-4.0 ppm | 0.1 ppm |

| Parameter | Range | Resolution |
|---|---|---|
| Salinity | 0-10000 ppm, 10.1-200.0 ppt, 0.01%-25.00% | 1 ppm, 10 ppm |
| EC (Electrical Conductivity) | 0-10000 uS/cm, 10.01-19.99 mS/cm, 20.1-400.0 mS/cm | 1 uS/cm, 10 uS/cm mS/CM |
| TDS (Total Dissolved Solids) | 0-10000 ppm, 10.1-200.0 ppt | 1 ppm, 10 ppm |
| ORP (Oxidation-Reduction Potential) | ±999 mV | 1 mV |
| Temperature | 0.0℃-60.0℃ (32.0℉ -140℉ ) | 0.1℃/0.1℉ |

- **Work Environment:** 0-60°C (32.0-140°F); RH 100%
- **Waterproof Rating:** IP67 (probe section only)
- **Battery:** 4*1.5V LR44 button battery (not included)
- **Dimensions:** 183mm x 42mm x 42mm
- **Display:** LCD with black backlight
- **Automatic Shut-off:** 5 minutes

**7. Maintenance**

- **Electrode Cleaning:** Always clean the electrodes thoroughly with distilled water after each use to prevent contamination and ensure accurate future readings.
- **Storage:** Replace the protective cap on the probe when not in use to keep it moist and protected. Store the device in a cool, dry place.
- **Battery Replacement:** Replace batteries promptly when the low battery indicator appears on the display to ensure continuous operation.
- **Probe Replacement:** The high-precision probes are removable and replaceable. If a probe becomes damaged or its accuracy degrades significantly, it can be twisted off and a new one installed.


Figure 7: Removable and replaceable probes for easy maintenance.

**8. Troubleshooting**

**8.1 FAC Value Displays 0 or '----'**

**Problem:** The Free Available Chlorine (FAC) value is displayed as 0 or '----'.

**Solution:** For the FAC value to display normally, the swimming pool water's pH should be between 6.5-8 pH, and the ORP should be between 487-840 mV. If either the pH or ORP value is outside this specified range, the FAC reading will not be displayed correctly.

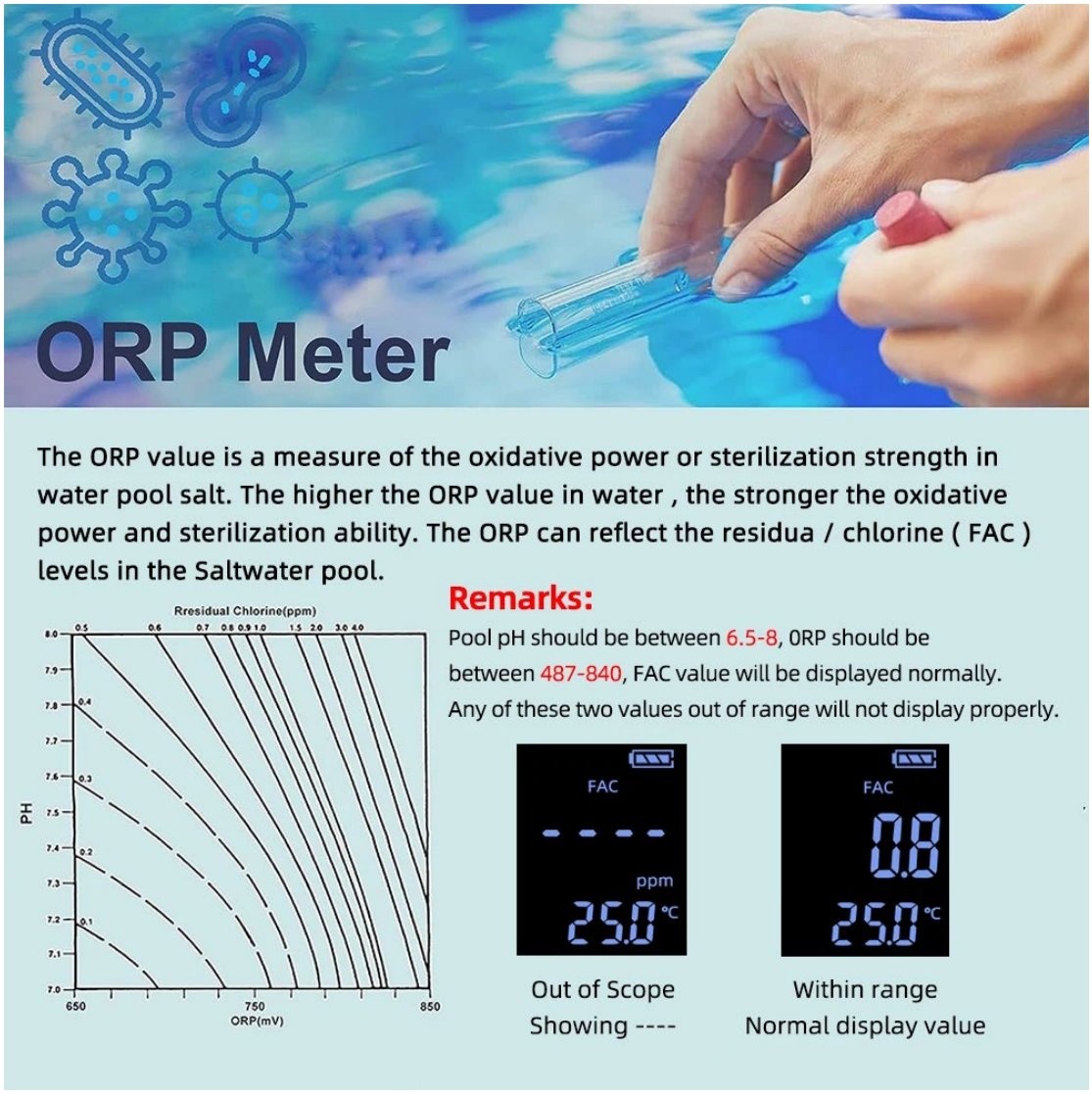


Figure 8: Conditions for normal FAC display based on pH and ORP values.

**8.2 Discrepancy with Reagent Test Papers**

**Problem:** The device detects 0 residual chlorine, but a reagent test paper shows a different value.

**Solution:** The detection principles of the AquaCheck-7 Pro Tester digital tester and traditional test papers are different. Test papers often have a larger margin of error and cannot be accurately compared with the precise readings provided by electronic equipment.

**9. User Tips**

- **Optimal Pool Conditions:** For saltwater pools, aim for a salt level between 2700-3400 ppm. Maintain a pH level between 7.2 and 7.8 for comfortable swimming and to protect pool equipment.
- **Versatile Applications:** This tester is suitable for a wide range of uses, including drinking water, sewage treatment, fish tanks, aquaculture, swimming pools, hydroponics, and medical care.
- **TDS Interpretation:** Lower TDS values generally indicate purer water quality. Refer to the TDS chart for common water quality classifications.


Figure 9: TDS value chart for water quality assessment.


Figure 10: Wide range of applications for the AquaCheck-7 Pro Tester.

**10. Warranty & Support**

For warranty information, technical support, or service inquiries, please contact the seller or manufacturer directly. Keep your purchase receipt as proof of purchase.