R3500

REED INSTRUMENTS

pH Meter



WARRANTY 1 YEAR WARRANTY

Instruction Manual

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Introduction

Thank you for purchasing your REED R3500 Pen Type pH Meter. Please read the following instructions carefully before using your instrument. By following the steps outlined in this manual your meter will provide years of reliable service.

Product Quality

This product has been manufactured to meet stated product specifications. If a certificate of calibration is required please contact the nearest authorized REED distributor or authorized Service Center. Please note an additional fee for this service will apply.

Safety

Never attempt to repair or modify your instrument. Dismantling your product, other than for the purpose of replacing batteries, may cause damage that will not be covered under the manufacturer's warranty. Servicing should only be provided by an authorized service center.

Features

- Dual LCD displays temperature and pH measurements
- User selectable °F or °C
- Automatic temperature compensation
- Replaceable pH electrode module
- Data hold function
- Waterproof housing
- Protective cap keeps sensor moistened
- Low battery indicator and auto shut off

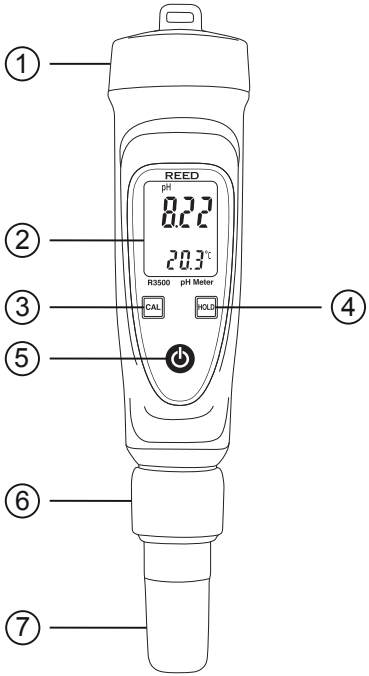
Included

- Protective Cap
- Hard Carrying Case
- Batteries

Specifications

Temperature	
Measuring Range:	32 to 140°F (0 to 60°C)
Accuracy:	±1.8°F (1°C)
Resolution:	0.1°F (0.1°C)
pH	
Measuring Range:	0.00 to 14.00 pH
Accuracy:	±0.02 pH
Resolution:	0.01 pH
General Specifications	
Display:	Dual Display, LCD
Data Hold:	Yes
Auto Shut-Off:	Yes (after approximately 10 minutes)
Waterproof:	Yes
Low Battery Indicator:	Yes
Power Supply:	4 x LR44 Cell Batteries
Operating Temperature:	32 to 122°F (0 to 50°C)
Storage Temperature:	14 to 122°F (-10 to 50°C)
Operating Humidity:	10 to 80%
Dimension:	7.3 x 1.6 x 1.6" (185 x 40 x 40mm)
Weight:	3.1oz (88g)

Instrument Description



1. Battery Compartment Cap
2. LCD Display
3. CAL Button
4. HOLD Button
5. Power Button
6. Electrode Collar
7. Electrode

Operating Instructions

Before use, soak the glass bulb in distilled water for a minimum of 1 hour

Power ON/OFF

Turn the meter on or off by pressing the Power button.

Selecting the Temperature Unit of Measure

When the meter is first powered ON, the default scale setting is set to Celsius (°C). Follow the steps below to toggle between temperature units of measure.

1. Press and hold the **HOLD** button while powering on the meter.
2. Release the **HOLD** button when °C appears on the display.
3. Press the **CAL** button to toggle between °C and °F.
4. Press the **HOLD** button to confirm selection and resume normal operation.

Note: The meter will automatically save the selected unit of measure as the new default when powered off.

Taking Measurements

Submerge the electrode in the solution to be tested while stirring gently. Wait for the measurements to stabilize. The pH value automatically compensated for temperature is shown at the top of the LCD Display whereas the secondary value below indicates the temperature of the sample.

Data Hold

1. Press the **HOLD** button to freeze the current reading on the display.
2. While in this mode "Hold" will appear on the LCD display.
3. Press the **HOLD** button again to resume normal operation.

Over Range

When the pH value is under "0" or over "14", the LCD display will indicate "L---" when under or "H---" when over. If the electrode is not placed in any solution, the pH value will indicate "- - - -" or "0.00".

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Auto Power Off

To preserve battery life, the meter is programmed to turn off after approximately 10 minutes of inactivity.

pH Calibration Procedure

If the pH meter is stored for an extended period of time, prior to calibration, condition your electrode in pH 4 buffer solution or distilled water for a minimum of 1 hour. The electrode is now ready for calibration.

1. Prepare buffer solutions for calibration. It is recommended to start with calibration buffer pH 7.00 pH, followed by either pH 4.00 or pH 10.00 (whichever is nearest to the expected sample value). Use the pH 4.00 and pH 7.00 buffer solutions when measurements are expected to be on the lower side of the pH scale. Use the pH 7.00 and pH 10.00 buffer solutions when measurements are expected to be on the higher side of the pH scale.

Note: The Automatic Temperature Compensation (ATC) is not active during the calibration process. For a more accurate calibration, make sure that calibration buffer solutions are at 77°F (25°C).

2. Turn the meter on by pressing the Power button.
3. Place the electrode into the pH 7.00 buffer solution, so that the tip of the electrode is fully immersed in the buffer solution, and stir at a moderate, uniform rate.
4. When calibration has stabilized, a pH value will appear at the top of the display.
5. Press and hold the CAL button until "CAL" appears on the display and release to enter the calibration mode.
6. "CAL" will now begin to blink indicating the calibration process has begun.

Note: If "Err" is displayed after holding the CAL button, make sure a valid pH buffer solution is being used, and that the electrode is not dried out.

7. The pH meter will then automatically identify the buffer solution and the current temperature.

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8. When completed, the pH meter will display "End" for several seconds and will then resume normal operation.
9. Repeat steps 3 through 8 for the pH 4.00 and pH 10.00 buffer solutions.

Note: Always rinse the electrode with distilled water to remove any residual buffer solution before next calibration.

Replacing the Electrode

pH Electrodes have a finite lifespan due to inherent properties and is dependent on frequency of use and care. Proper maintenance of your pH meter is the best way to maximize the life of your pH electrode. When the reading becomes unstable or sluggish it may be time to replace your electrode. If you can no longer calibrate the electrode, it is time to replace it.

Follow the steps below to replace the electrode:

1. Remove the electrode protective cap.
2. Unscrew the electrode collar clockwise, and remove it completely.
3. Pull the pH electrode module out.
4. Carefully plug a new electrode module (R3500-ELECTRODE) into the socket.
5. Tighten the electrode collar to ensure a good seal and replace the cap.

Battery Replacement

When the low battery icon appears on the LCD, the batteries must be replaced.

1. Twist off the battery compartment cap.
2. Replace the four (4) LR44 1.5V button cell batteries.
3. Replace the battery compartment cap.

Applications

- Water Conditioning
- General purpose pH measurement
- Aquariums
- Wastewater monitoring
- Beverage Production

Accessories and Replacement Parts

- **R3500-ELECTRODE** Replacement pH Electrode
- **PH-04** 4 pH Buffer Solution
- **PH-07** 7 pH Buffer Solution
- **R1004** 4 pH Calibration Buffer Pouches
- **R1007** 7 pH Calibration Buffer Pouches
- **CA-52A** Soft Carrying Case

Don't see your part listed here? For a complete list of all accessories and replacement parts visit your product page on www.reedinstruments.com.

Product Care

To keep your instrument in good working order we recommend the following:

- Store your product in a clean, dry place.
- Change the battery as needed.
- If your instrument isn't being used for a period of one month or longer please remove the battery.
- Clean your product and accessories with biodegradable cleaner. Do not spray the cleaner directly on the instrument. Use on external parts only.
- Before first use or after storage, you may notice white KCl crystals forming outside your electrode. This will not interfere with measurements. Simply rinse the electrode.
- Always keep the pH glass bulb wet by using the cap to protect and store the electrode.
- Always rinse the pH electrode in de-ionized water or rinse solution before next us.
- Never touch or rub the glass bulb.
- Make sure the electrode is clean. Between measurements, rinse the electrode with de-ionized water. If the electrode has been exposed to a solvent immiscible with water, clean it with a solvent miscible with water e.g. ethanol or acetone and rinse carefully with water.
- Store the electrode carefully using storage solution (If not available use pH4 solution).

Product Warranty

REED Instruments guarantees this instrument to be free of defects in material or workmanship for a period of one (1) year from date of shipment. During the warranty period, REED Instruments will repair or replace, at no charge, products or parts of a product that proves to be defective because of improper material or workmanship, under normal use and maintenance. REED Instruments total liability is limited to repair or replacement of the product. REED Instruments shall not be liable for damages to goods, property, or persons due to improper use or through attempts to utilize the instrument under conditions which exceed the designed capabilities. In order to begin the warranty service process, please contact us by phone at 1-877-849-2127 or by email at info@reedinstruments.com to discuss the claim and determine the appropriate steps to process the warranty.

Product Disposal and Recycling



Please follow local laws and regulations when disposing or recycling your instrument. Your product contains electronic components and must be disposed of separately from standard waste products.

Product Support

If you have any questions on your product, please contact your authorized REED distributor or REED Instruments Customer Service by phone at 1-877-849-2127 or by email at info@reedinstruments.com.

Please visit **www.REEDINSTRUMENTS.com** for the most up-to-date manuals, datasheets, product guides and software.

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