

HM Digital HM-500

HM Digital HydroMaster HM-500 User Manual

Continuous pH/EC/TDS/Temperature Monitor

1. INTRODUCTION

Thank you for choosing the HM Digital HydroMaster HM-500. This device is designed for continuous monitoring of pH, Electrical Conductivity (EC), Total Dissolved Solids (TDS), and temperature in various water applications. This manual provides essential information for the proper setup, operation, and maintenance of your HM-500 to ensure accurate and reliable measurements.

2. PRODUCT OVERVIEW AND FEATURES

The HydroMaster HM-500 is a versatile digital tester offering comprehensive water quality analysis. Its key features include:

- Continuous monitoring of pH, EC, TDS, and Temperature.
- Wide measurement ranges: pH (0-14 pH), Temperature (30°F-176°F), TDS (0-9999 ppm), EC (0-9999 µS).
- Rechargeable lithium-ion battery for portable use.
- LCD touch-type screen with automatic backlighting.
- Data storage for up to 20 measurement readings.
- Adjustable high and low set point alarms.
- Automatic shut-off after 5 minutes of inactivity to conserve battery.
- Designed for portable, wall-mount, or benchtop applications.

HM-500



Image: The HM Digital HydroMaster HM-500 device displaying its multi-parameter readings.

3. PACKAGE CONTENTS

Verify that all items are present in your package:

- 1 x HM Digital HydroMaster HM-500 Tester
- 1 x Wall mountable bracket
- 1 x USB cable
- 2 x Flotation disks
- 1 x EC/TDS conductivity sensor
- 1 x pH sensor
- 1 x Packet of pH 4 calibration solution
- 1 x Packet of pH 7 calibration solution
- 1 x Packet of storage solution

- 1 x Packet of 1000 ppm calibration solution

4. SETUP

Follow these steps for initial setup:

1. **Charge the Device:** Connect the HM-500 to a power source using the provided USB cable and a 110V-220V adapter. Ensure the device is fully charged before first use.
2. **Connect Sensors:** Carefully connect the pH sensor and the EC/TDS conductivity sensor to their respective ports on the device. Ensure connections are secure.
3. **Mounting (Optional):** Use the wall mountable bracket if you intend to install the device permanently. For portable or benchtop use, no mounting is required.
4. **Sensor Preparation:** Before first use, immerse the pH sensor in the provided storage solution for at least 30 minutes to condition it. Rinse both sensors with distilled water before calibration or use.

5. OPERATING INSTRUCTIONS

The HM-500 features a touch-type LCD screen for easy operation.

5.1 Power On/Off

- To power on, press and hold the **MENU** button until the screen illuminates.
- The device will automatically power off after 5 minutes of inactivity. To manually power off, press and hold the **MENU** button again.

5.2 Taking Measurements

1. Ensure sensors are properly connected and immersed in the solution to be tested.
2. The screen will display real-time readings for pH, EC, TDS, and temperature.
3. Allow readings to stabilize before recording.

5.3 Data Storage and Recall

- To save a reading, press the **SAVE** button. The device can store up to 20 readings.
- To recall saved readings, press the **RECALL** button. Use the arrow buttons (if available on screen) to navigate through stored data.

5.4 Setting Alarms

- Access the alarm settings through the **MENU** options.
- Set desired high and low thresholds for pH, EC, or TDS.
- The device will alert you if readings fall outside the set parameters.

6. CALIBRATION

Regular calibration ensures the accuracy of your HM-500. Use the provided calibration solutions.

6.1 pH Calibration

1. Rinse the pH sensor with distilled water.
2. Immerse the pH sensor in pH 7.0 calibration solution.
3. Access the pH calibration mode via the **MENU**. Follow on-screen prompts to calibrate to pH 7.0.
4. Rinse the sensor again.

- 5. Immerse the pH sensor in pH 4.0 calibration solution.
- 6. Calibrate to pH 4.0 following on-screen prompts.
- 7. For high pH measurements, an additional calibration point at pH 10.0 may be required (solution not included).

6.2 EC/TDS Calibration

- 1. Rinse the EC/TDS sensor with distilled water.
- 2. Immerse the EC/TDS sensor in the 1000 ppm calibration solution.
- 3. Access the EC/TDS calibration mode via the **MENU**. Follow on-screen prompts to calibrate to 1000 ppm.
- 4. Rinse the sensor after calibration.

7. MAINTENANCE

Proper maintenance extends the life and accuracy of your HM-500.

- **Sensor Cleaning:** Regularly clean sensors with distilled water to remove any residue. For stubborn deposits, use a soft brush or a mild cleaning solution specifically designed for pH/EC sensors.
- **pH Sensor Storage:** Always store the pH sensor in the provided storage solution when not in use. Never store it dry or in distilled water, as this can damage the sensor.
- **Battery Care:** Recharge the lithium-ion battery when the low battery indicator appears. Avoid fully discharging the battery frequently.
- **General Cleaning:** Wipe the device body with a soft, damp cloth. Do not use abrasive cleaners or immerse the main unit in water.

8. TROUBLESHOOTING

Refer to the following table for common issues and their solutions:

Problem	Possible Cause	Solution
Inaccurate pH/EC/TDS readings	Sensors are dirty or uncalibrated.	Clean and recalibrate the sensors according to Section 6.
Device does not power on	Low battery or faulty connection.	Charge the device using the USB cable. Check USB cable and adapter connections.
Readings fluctuate excessively	Air bubbles around sensors, electrical interference, or damaged sensor.	Gently agitate the solution to remove bubbles. Ensure no strong electrical fields nearby. Inspect sensors for damage; replace if necessary.
pH sensor not responding	Sensor is dry or damaged.	Recondition the pH sensor in storage solution. If still unresponsive, the sensor may need replacement.

9. SPECIFICATIONS

Detailed specifications for the HM Digital HydroMaster HM-500:

- **Model Number:** HM-500
- **Product Dimensions:** 8.27 x 4.33 x 1.57 inches
- **Item Weight:** 8.8 ounces

- **pH Range:** 0 - 14 pH
- **Temperature Range:** 30°F - 176°F (0°C - 80°C)
- **TDS Range:** 0 - 9999 ppm
- **EC Range:** 0 - 9999 μ S
- **Power Source:** Rechargeable lithium-ion battery, 110V-220V adapter
- **Data Storage:** Up to 20 readings
- **Auto Shut-off:** 5 minutes

Size Specification



Image: HM Digital HydroMaster HM-500 with approximate dimensions.

10. WARRANTY AND SUPPORT

The HM Digital HydroMaster HM-500 comes with a **three-year warranty** from the date of purchase. Please note that the pH probe has a separate **six-month warranty** due to its consumable nature.

For technical support, warranty claims, or replacement parts, please contact HM Digital customer service through their official website or authorized distributors.

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question