



MW101

Generic MW101 PRO Portable Digital pH Meter User Manual

Model: MW101

1. INTRODUCTION

Thank you for choosing the Generic MW101 PRO Portable Digital pH Meter. This device is designed for reliable, fast, and accurate pH measurements. This manual provides essential information for the proper setup, operation, maintenance, and troubleshooting of your pH meter to ensure optimal performance and longevity.

2. SAFETY INFORMATION

Please read all safety information before using the device. Failure to do so may result in injury or damage to the meter.

- Always handle the pH electrode with care. The glass bulb is fragile.
- Do not immerse the meter body in water. It is not waterproof.
- Keep calibration solutions and electrode storage solutions out of reach of children.
- Ensure the battery compartment is sealed properly to prevent moisture ingress.
- Dispose of batteries and old electrodes according to local regulations.

3. PRODUCT OVERVIEW

The Generic MW101 PRO is a portable digital pH meter designed for precise pH measurements in various applications. It features a large LCD display for easy reading and simple two-point calibration for enhanced accuracy.



Figure 3.1: Generic MW101 PRO pH Meter with connected electrode. The meter displays pH readings and has controls for temperature compensation and calibration.



Figure 3.2: Complete kit contents including the MW101 PRO pH meter, pH electrode, pH 7.01 calibration buffer solution, 9V alkaline battery, and a small screwdriver for calibration adjustment.

3.1 Key Features

- Portable design for on-the-go measurements.
- Large digital LCD display for clear readings.
- Accuracy up to ± 0.2 pH (0.0 pH to 14.0 pH).
- Easy two-point calibration for enhanced precision.
- Automatic shut-off to conserve battery life.
- Includes a laboratory-quality gel double diaphragm pH electrode.
- Approximately 300 hours of continuous operation on a single 9V alkaline battery.

4. SETUP

4.1 Battery Installation

1. Locate the battery compartment cover on the back of the meter.
2. Slide the cover off to open the compartment.
3. Connect the included 9V alkaline battery to the battery clip, ensuring correct polarity.
4. Place the battery into the compartment and slide the cover back on until it clicks securely into place.



Figure 4.1: Illustration of inserting the 9V battery into the battery compartment of the MW101 PRO pH Meter.

4.2 Electrode Connection

1. Remove the protective cap from the BNC connector at the bottom of the meter.



Figure 4.2: Close-up view of the BNC connector located at the bottom of the MW101 PRO pH Meter, where the electrode is attached.

2. Connect the BNC connector of the pH electrode to the meter by aligning the pins and twisting clockwise until secure.
3. Remove the protective storage cap from the electrode tip before use. Ensure the electrode tip is always kept moist when not in use, preferably in a storage solution or pH 7 buffer.

5. OPERATING INSTRUCTIONS

5.1 Powering On/Off

- To turn the meter ON, press the **ON/OFF** button.
- To turn the meter OFF, press the **ON/OFF** button again. The meter also features an automatic shut-off function to conserve battery life.

5.2 Calibration

Regular calibration is crucial for accurate pH measurements. The MW101 PRO supports a two-point calibration process using pH 7.01 and pH 4.01 or pH 10.01 buffer solutions.

1. Turn the meter ON.
2. Rinse the electrode thoroughly with distilled or deionized water and gently blot dry.

3. Immerse the electrode tip into the pH 7.01 buffer solution. Stir gently and wait for the reading to stabilize.
4. Using the small screwdriver provided, adjust the **pH 7** trimmer (located on the front panel) until the display shows "7.01".



Figure 5.1: Close-up view of the calibration trimmers for pH 4/10 and pH 7, and the temperature compensation dial on the MW101 PRO pH Meter. A screwdriver is used to adjust the trimmers.

5. Rinse the electrode again with distilled or deionized water.
6. Immerse the electrode tip into either the pH 4.01 or pH 10.01 buffer solution (depending on your expected measurement range). Stir gently and wait for the reading to stabilize.
7. Adjust the **pH 4/10** trimmer until the display shows the value of the second buffer solution (e.g., "4.01" or "10.01").
8. Your meter is now calibrated and ready for use.

5.3 Taking Measurements

1. Ensure the meter is calibrated.
2. Rinse the electrode with distilled or deionized water before each measurement.
3. Immerse the electrode tip into the sample solution, ensuring the sensing bulb is fully submerged.

4. Gently stir the solution to ensure homogeneity and wait for the reading on the LCD display to stabilize.
5. Record the pH value displayed.
6. After measurement, rinse the electrode thoroughly and place it back into its storage solution or pH 7 buffer.

5.4 Temperature Compensation

The MW101 PRO features manual temperature compensation. pH readings are temperature-dependent. For accurate results, adjust the temperature compensation dial to match the temperature of your sample solution.

- Measure the temperature of your sample solution using a thermometer.
- Rotate the **Temperature Compensation** dial on the meter's front panel to the corresponding temperature value (in °C). The dial ranges from 0 to 50 °C.

6. MAINTENANCE

6.1 Electrode Care and Storage

- Always keep the electrode sensing bulb moist. Store it in a dedicated electrode storage solution or pH 7 buffer solution when not in use. **Never store the electrode dry or in distilled/deionized water.**
- Rinse the electrode with distilled or deionized water before and after each use.
- If the electrode becomes sluggish or readings are unstable, it may need cleaning. Refer to the electrode manufacturer's instructions for cleaning procedures.
- Replace the electrode if it is damaged or if calibration becomes difficult or impossible.

6.2 Battery Replacement

When the display becomes dim or the meter fails to power on, it's time to replace the 9V battery. Follow the steps outlined in Section 4.1 Battery Installation.

6.3 Cleaning the Meter

- Wipe the meter body with a soft, damp cloth.
- Do not use abrasive cleaners or solvents.
- Ensure no liquid enters the meter casing, especially through the battery compartment or BNC connector.

7. TROUBLESHOOTING

Problem	Possible Cause	Solution
Meter does not turn on.	Dead or improperly installed battery.	Check battery connection; replace battery.
Unstable or erratic readings.	Dirty or damaged electrode; air bubbles around electrode; insufficient sample immersion; old buffer solutions.	Clean electrode; ensure proper immersion; use fresh buffer solutions; gently stir sample.
Cannot calibrate meter.	Incorrect buffer solutions; electrode needs cleaning or replacement; incorrect calibration procedure.	Use fresh, correct buffer solutions; clean/replace electrode; review calibration steps.
Slow response time.	Electrode dry or fouled; low sample temperature.	Rehydrate electrode in storage solution; clean electrode; allow sample to reach room temperature.

8. SPECIFICATIONS

Model	MW101 PRO
pH Range	0.00 to 14.00 pH
pH Resolution	0.01 pH
pH Accuracy	± 0.2 pH
Calibration	Manual, two-point (pH 7.01 and pH 4.01 or 10.01)
Temperature Compensation	Manual, 0 to 50 °C (32 to 122 °F)
Electrode	SE220 pH Electrode (included)
Power Supply	1 x 9V Alkaline Battery (included)
Battery Life	Approx. 300 hours of continuous use
Automatic Shut-off	Yes
Dimensions	Approx. 12.7 x 7.6 x 2.5 cm (5" x 3" x 1")
Weight	Approx. 220 g (with battery)
Operating Environment	0 to 50 °C (32 to 122 °F); RH max 95% non-condensing

9. WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the documentation provided with your purchase or contact your local distributor. Keep your proof of purchase for any warranty claims.

For further assistance, you may visit the manufacturer's website or contact their customer service department.