

Apera Instruments AI103G

Apera Instruments GroStar Series GS3 EC/ppm Pen Tester Kit (AI103G) User Manual

Model: AI103G

1. INTRODUCTION

This manual provides detailed instructions for the Apera Instruments GroStar Series GS3 EC/ppm Pen Tester Kit (AI103G). This lab-grade conductivity meter is designed for accurate measurement of EC (Electrical Conductivity), 500ppm, and 700ppm, along with temperature, making it suitable for hydroponics and general water quality testing. The device features a replaceable titanium conductivity sensor and a user-friendly interface.

2. PRODUCT OVERVIEW

The GroStar Series GS3 EC/ppm Pen Tester is engineered for reliability and ease of use. Key features include:

- Measures conductivity (EC), 500ppm, 700ppm, and temperature.
- Replaceable titanium sensor for high accuracy in the 0 to 10 EC range.
- Backlit HD screen for clear readings.
- Grower-friendly calibration workflow with a calibration reminder function.



Figure 1: Apera Instruments GroStar Series GS3 EC/ppm Pen Tester.

Advanced Conductivity Sensor Tech

Titanium alloy sensor



Figure 2: Close-up view of the durable titanium alloy sensor for conductivity measurements.



Figure 3: The GroStar GS3 Pen Tester demonstrating its water resistance during use.

3. SETUP

Before first use, ensure all components are present and the device is ready for operation.

3.1 What's in the Box

- Apera Instruments GroStar Series GS3 EC/ppm Pen Tester (Gen II)
- 2.77 EC Calibration Solution
- Lanyard
- 4 AAA batteries (pre-installed or included separately)



Figure 4: The complete kit contents, including the tester, calibration solution, and lanyard.

3.2 Battery Installation

The device requires 4 AAA batteries. If not pre-installed, open the battery compartment located at the top of the tester, insert the batteries according to the polarity indicators, and securely close the compartment.

3.3 Initial Preparation

1. Remove the protective cap from the sensor.
2. Rinse the sensor with distilled or deionized water.
3. Gently shake off excess water.

4. OPERATING INSTRUCTIONS

4.1 Power On/Off

Press the **POWER** button to turn the tester on or off.

4.2 Taking a Measurement

1. Ensure the tester is clean and calibrated.
2. Immerse the sensor into the sample solution, ensuring the sensor is fully submerged.

3. Stir gently and wait for the reading to stabilize on the display.
4. The display will show EC/ppm and temperature readings.

4.3 Switching Measurement Modes (EC/ppm)

Press the **MODE/UNITS** button to cycle through EC, 500ppm, and 700ppm measurement modes.

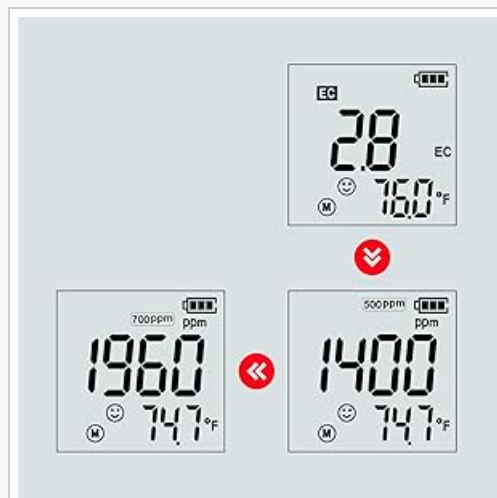


Figure 5: The tester's display cycling through different measurement units.

4.4 Hold Function

Press the **HOLD** button to freeze the current reading on the display. Press again to release.

4.5 TruRead Display

The TruRead display provides MAX, AVG, and MIN readings, offering a comprehensive view of your measurements.

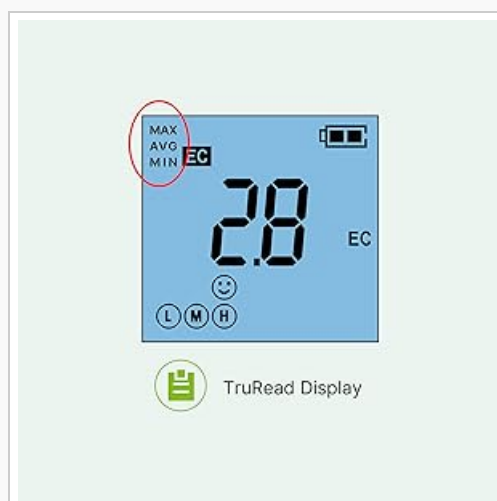


Figure 6: The TruRead display feature, showing maximum, average, and minimum recorded values.

5. CALIBRATION

Regular calibration ensures accurate measurements. The GS3 features a grower-friendly calibration workflow and a reminder function.

5.1 Calibration Process

1. Turn on the tester.
2. Press the **CAL** button to enter calibration mode.

3. Immerse the sensor into the 2.77 EC calibration solution.
4. The tester will automatically recognize the solution and calibrate. Wait for the stable reading and confirmation.
5. Rinse the sensor with distilled water after calibration.



Figure 7: Visual representation of the tester's display in measurement, calibration, and error states.

5.2 Calibration Reminder

The tester will automatically remind you when recalibration is due, ensuring consistent accuracy.

6. MAINTENANCE

6.1 Cleaning the Sensor

After each use, rinse the sensor thoroughly with distilled or deionized water to prevent residue buildup. Do not scrub the sensor vigorously.

6.2 Storage

Always replace the protective cap after use. For long-term storage, ensure the sensor is kept moist. Refer to the product packaging or Apera Instruments website for specific storage solution recommendations if applicable.

6.3 Replacing the Sensor

The titanium EC sensor is replaceable. If the sensor performance degrades significantly or it becomes damaged, a new sensor can be purchased and easily installed by twisting off the old one and attaching the new one.

7. TROUBLESHOOTING

Problem	Possible Cause	Solution
Inaccurate readings	Sensor is dirty or dry; Calibration is outdated or incorrect; Damaged sensor.	Clean the sensor; Recalibrate the tester; Replace the sensor if damaged.
Tester does not power on	Dead batteries; Incorrect battery installation.	Replace batteries; Check battery polarity.
"CAL Er" error during calibration	Incorrect calibration solution; Contaminated solution; Sensor issue.	Ensure correct 2.77 EC solution is used; Use fresh calibration solution; Clean or replace sensor.



8. SPECIFICATIONS

- **Model Number:** AI103G
- **Product Dimensions:** 7 x 1.5 x 1.3 inches
- **Weight:** 4.69 ounces
- **Power Source:** 4 AAA batteries (included)
- **Sensor Type:** Replaceable Titanium EC Probe
- **Measurement Parameters:** EC, 500ppm, 700ppm, Temperature
- **First Available Date:** September 28, 2022

9. WARRANTY AND SUPPORT

Apera Instruments products are backed by a manufacturer's warranty. For detailed warranty information, technical support, or to purchase replacement parts, please visit the official Apera Instruments website or contact their customer service directly. Keep your purchase receipt for warranty claims.

Manufacturer: Apera Instruments

<div></div>	<p>Apera GroStar GS2 Premium Soil pH Pen Tester User Manual Accurate Soil Testing</p> <p>Comprehensive user manual for the Apera GroStar GS2 Premium Soil pH Pen Tester. Learn about calibration, measurement, troubleshooting, and maintenance for accurate soil pH testing.</p>
<div></div>	<p>Apera Instruments PC60 Premium 5-in-1 Tester User Manual</p> <p>Comprehensive user manual for the Apera Instruments PC60 Premium 5-in-1 Tester, covering pH, Conductivity, TDS, Salinity, and Temperature measurements. Includes setup, calibration, operation, maintenance, and troubleshooting.</p>
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<div></div>	<p>Apera EC1 Pocket Conductivity Tester Instruction Manual</p> <p>Comprehensive instruction manual for the Apera EC1 Pocket Conductivity Tester, detailing its features, operation, calibration, technical specifications, and warranty information.</p>



TN480 Portable Turbidity Meter
Instruction Manual



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Comprehensive instruction manual for the Apera TN480 Portable Turbidity Meter, detailing its features, technical specifications, calibration, measurement procedures, data handling, and warranty. Learn to use this ISO7027 compliant device for accurate water turbidity analysis.