Hanna Instruments HI98302

Hanna Instruments HI98302 DiST2 TDS Tester User Manual

Model: HI98302

1. Introduction

This manual provides comprehensive instructions for the proper use, maintenance, and troubleshooting of the Hanna Instruments HI98302 DiST2 TDS Tester. Please read this manual thoroughly before operating the device to ensure accurate measurements and prolong its lifespan.

2. Product Overview

The Hanna Instruments HI98302 DiST2 is a robust, pocket-sized tester designed for quick and accurate measurement of Total Dissolved Solids (TDS). This device is suitable for various applications including drinking water analysis, water conditioning, reverse osmosis systems, cooling towers, wastewater treatment, laboratory use, agriculture, aquaculture, aquariums, hydroponics, and the printing industry.
It features an amperometric graphite electrode, which ensures consistent and repeatable measurements due to its resistance to oxidation. Amperometric TDS measurement relies on Ohm's Law (I = V/R), where resistance is influenced by the distance and surface area between two pins. The DiST2's non-oxidizing graphite pins maintain optimal surface conditions for accurate and reliable results.

Key Features:

- Rugged and reliable pocket-sized design.
- Amperometric graphite electrodes for improved repeatability.
- Automatic Temperature Compensation (ATC) for accurate readings across varying temperatures.
- Simple one-point manual calibration.
- Measures TDS in the range of 0.00 to 10.00 g/L.


ppt
0.00
DiST 2
by HANNA

Figure 1: The Hanna Instruments HI98302 DiST2 TDS Tester. The device is light blue with a digital display showing '0.00' and 'ppt' above it. Below the display, 'DiST 2' and 'by HANNA' are printed. The bottom part of the tester, which houses the electrode, is exposed, and a black protective cap is shown next to it.

3. Setup

3.1. Unpacking and Battery Installation

Upon receiving your HI98302 DiST2 tester, carefully unpack all components. The package should include the tester, a protective cap, a screwdriver for calibration, batteries, and this instruction manual.

1. Locate the battery compartment cover, usually on the top or back of the device.
2. Remove the cover and insert the four 1.5V batteries, ensuring correct polarity.
3. Replace the battery compartment cover securely.

3.2. Initial Preparation

1. Remove the protective cap from the electrode at the bottom of the tester.
2. Rinse the electrode with deionized or distilled water before first use.

4. Operating Instructions

4.1. Taking a Measurement

1. Turn on the tester by pressing the ON/OFF button (if applicable, otherwise it might be always on or have a simple switch).
2. Immerse the electrode tip into the sample solution, ensuring the liquid level is above the minimum immersion line but below the maximum.
3. Stir the tester gently to remove any air bubbles trapped on the electrode.
4. Allow a few moments for the reading to stabilize. The display will show the TDS value.
5. Record the reading once it is stable.
6. After measurement, rinse the electrode with deionized or distilled water and replace the protective cap.

4.2. Automatic Temperature Compensation (ATC)

The HI98302 DiST2 features automatic temperature compensation, which adjusts the TDS reading to a reference temperature (typically 25°C). This ensures accurate measurements even when the sample temperature varies between 0 to 50°C.

5. Calibration

Regular calibration ensures the accuracy of your TDS tester. The HI98302 DiST2 uses a simple one-point manual calibration method. It is recommended to calibrate the device frequently, especially after prolonged storage or if readings appear inconsistent.

5.1. Calibration Procedure

1. Obtain a fresh 6.44 g/L TDS calibration solution (Hanna Instruments recommends using their specific calibration solutions for best results).
2. Turn on the tester and remove the protective cap.
3. Immerse the electrode tip into the calibration solution. Ensure the electrode is fully submerged.
4. Locate the calibration trimmer on the side of the tester.

5. Using the provided screwdriver, carefully adjust the trimmer until the display reads "6.44" (or the exact value of your calibration solution).
6. Once the display shows the correct value, the tester is calibrated.
7. Rinse the electrode with deionized or distilled water and replace the protective cap.

6. Maintenance

6.1. Electrode Cleaning and Storage

- **After Each Use:** Always rinse the electrode thoroughly with deionized or distilled water to prevent sample residue buildup.
- **Regular Cleaning:** If the electrode becomes dirty or readings become erratic, clean the electrode using a mild cleaning solution specifically designed for TDS/EC probes. Follow the cleaning solution's instructions.
- **Storage:** Always replace the protective cap after use. For long-term storage, ensure the electrode is clean and dry. Do not store the electrode in distilled or deionized water as this can deplete the electrode's reference electrolyte.

6.2. Battery Replacement

The tester uses four 1.5V batteries, providing approximately 200 hours of continuous use. When the battery indicator appears on the display or the tester fails to power on, replace the batteries as described in the "Unpacking and Battery Installation" section.

7. Troubleshooting

Problem	Possible Cause	Solution
Tester does not turn on.	Dead or incorrectly installed batteries.	Replace batteries, ensuring correct polarity.
Erratic or unstable readings.	Dirty electrode; air bubbles on electrode; uncalibrated.	Clean electrode; gently stir sample; calibrate the tester.
Inaccurate readings.	Tester out of calibration; incorrect calibration solution; damaged electrode.	Recalibrate with fresh solution; replace electrode if damaged.
Display shows "0.00" continuously in sample.	Electrode not immersed; very low TDS sample; faulty electrode.	Ensure electrode is submerged; check with known solution; replace electrode.

8. Specifications

Parameter	Value
Model	HI98302
Range	0.00 to 10.00 g/L (ppt)
Resolution	0.01 g/L (ppt)
Accuracy	±2% Full Scale (FS)
TDS Factor	0.5
Calibration	Manual, one-point (6.44 g/L TDS calibration solution)

Parameter	Value
Temperature Compensation	Automatic, 0 to 50 °C (32 to 122 °F)
Electrode	Amperometric graphite probe
Battery Type / Life	4 x 1.5V / approximately 200 hours of continuous use
Environment	0 to 50 °C (32 to 122 °F), RH max 95%
Dimensions	1-19/32" L x 57/64" W x 6-57/64" H (approx. 40 x 23 x 175 mm)
Weight	3.4 ounces (approx. 96 g)
Material	Graphite (electrode)

9. Warranty

Hanna Instruments products are warranted for a specific period against defects in workmanship and materials when used for their intended purpose and maintained according to instructions. Please refer to the warranty card included with your product or visit the official Hanna Instruments website for detailed warranty information specific to the HI98302 DiST2. Keep your purchase receipt as proof of purchase.

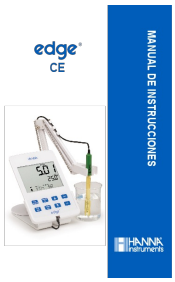
10. Support

For technical assistance, product information, or to order accessories and replacement parts, please contact Hanna Instruments customer support.

- **Website:** www.hannainst.com
- **Contact Information:** Refer to the Hanna Instruments website or your product packaging for regional contact details.

Related Documents - HI98302

	Manual de Instrucciones Hanna HI98330 Tester de Nutrientes GroLine® CE/TDS Manual de instrucciones detallado para el Tester de Nutrientes Hanna HI98330 GroLine® CE/TDS. Cubre especificaciones, operación, mantenimiento, limpieza y garantía para aplicaciones hidropónicas y agrícolas.
	Hanna HI98330 Nutrient Tester EC/TDS Quick Reference Guide Quick reference guide for the Hanna HI98330 Nutrient Tester EC/TDS, covering main features, operational guidelines, and sensor cleaning. Learn about its IP67 waterproof design and battery indicators.

	[Hanna HI9810362 HALO2 Wireless pH Tester for Meat Instruction Manual] Instruction manual for the Hanna HI9810362 HALO2 Wireless pH Tester for Meat. This guide provides detailed information on specifications, operation, calibration, maintenance, and troubleshooting for accurate pH measurements in meat processing.
	[Hanna Instruments HI 98129 & HI 98130 pH/EC/TDS/Temperature Tester Instruction Manual] Comprehensive instruction manual for Hanna Instruments HI 98129 and HI 98130 waterproof pH, EC, TDS, and temperature testers. Covers operation, calibration, maintenance, and specifications.
	[Manual de Instrucciones Hanna edge CE HI2003: Guía Completa] Descubra cómo utilizar el medidor de conductividad Hanna edge CE HI2003 con este manual de instrucciones detallado. Incluye configuración, calibración, operación y especificaciones.
	[HANNA HI981954: Multiparameter Waterproof Meter for pH, ORP, EC, TDS & More] Discover the HANNA HI981954, a rugged, waterproof multiparameter meter designed for accurate field measurements of pH, ORP, EC, TDS, Resistivity, Salinity, Seawater, and Temperature. Ideal for various water quality testing applications.