

Apera Instruments AI214

Apera Instruments Value Series Salt20 Salinity Tester Kit User Manual

Model: AI214

INTRODUCTION

This manual provides detailed instructions for the proper use and maintenance of your Apera Instruments Salt20 Salinity Tester Kit. The Salt20 is designed for professional salinity measurement in various water solutions, including pools, spas, agriculture, and environmental monitoring.

For optimal performance and longevity of your device, please read this manual thoroughly before operation.



Where To Use

The Apera Instruments Salt20 Salinity Tester is suitable for a wide range of applications including hydroponics, pools, and drinking water analysis.

SAFETY PRECAUTIONS

Important Safety Information

- Always handle the device with care to prevent damage to the sensor.
- Do not immerse the entire meter in water beyond the specified IP67 waterproof rating.
- Keep calibration solutions and the device out of reach of children.
- Store the device in a cool, dry place when not in use.
- Ensure the battery compartment is sealed properly to maintain water resistance.

PRODUCT OVERVIEW

Kit Components



The Salt20 Salinity Tester Kit includes the meter, calibration solution, AAA batteries, and a lanyard, all housed in a portable carrying case.

The Apera Instruments Salt20 Salinity Tester Kit includes:

- Salt20 Salinity Tester
- 1 bottle of calibration solution (12.88 mS/cm, equivalent to 6.44 ppt)
- AAA batteries (pre-installed or included)
- Lanyard
- Portable carrying case

Key Features

- **High Accuracy:** Apera's unique platinum black sensor (BPB) ensures high accuracy in a wide-range salinity measurement (0 to 10.0 ppt).
- **Easy Auto Calibration:** 1-point auto calibration with auto buffer recognition.
- **Automatic Temperature Compensation (ATC):** 0-50°C ATC for precise readings.
- **Clear LCD Display:** Large LCD with dual display of salinity (ppt) and temperature (°C/°F), including reminders

for stable readings and completed calibrations.

- **Waterproof Design:** IP67 water-resistant and floatable for durability.
- **Long Battery Life:** Up to 1000 hours of operation powered by AAA batteries.
- **Self-Diagnosis:** With out-of-range and low battery warnings.

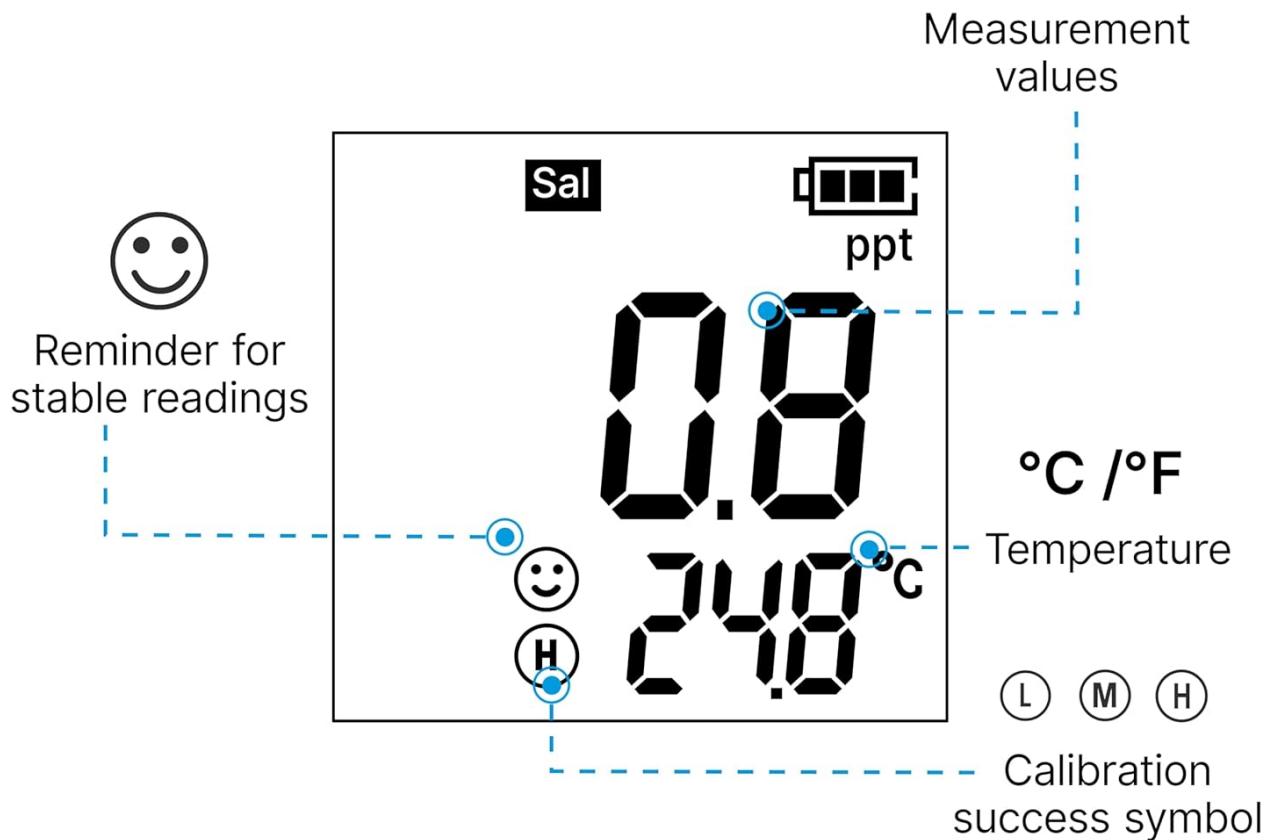
Sensor Technology



High Quality BPB EC Sensor
Ensures **High Accuracy** in **Wide Ranges**
(0-2000 μ S; 0-20 mS)

The Salt20 features Apera's unique Brush-Resistant Platinum Black (BPB) sensor, designed for high accuracy and consistency in wide-range salinity testing.

LCD Display Details



Clear LCD Display

The clear LCD display provides simultaneous readings for salinity (ppt) and temperature, along with indicators for stable readings and successful calibration.

Accessories



Lanyard included for convenient use

A lanyard is included for convenient and secure use of the Salt20 Salinity Tester.



Complete test kit in a rugged carrying case

The complete test kit comes in a rugged carrying case for protection and portability.

SETUP

Battery Installation

The Salt20 Salinity Tester is powered by 4 AAA batteries.

1. Unscrew the battery cap at the top of the meter.
2. Insert the AAA batteries according to the polarity indicators (+/-).
3. Securely screw the battery cap back on to ensure the waterproof seal.

Initial Preparation

1. Remove the protective cap from the sensor.
2. Rinse the sensor with distilled water and gently shake off excess water.
3. The meter is now ready for calibration or measurement.

OPERATING INSTRUCTIONS

Basic Measurement

1. **Turn On:** Short press the MEAS button to turn on the meter.
2. **Immerse Sensor:** Dip the sensor into the sample solution, ensuring the solution covers the sensor completely. Stir gently to remove air bubbles.
3. **Read Measurement:** Wait for the smiley face icon to appear and remain stable on the LCD, indicating a stable reading. Record the salinity (ppt) and temperature (°C/°F) values.
4. **Turn Off:** Long press the MEAS button to turn off the meter.

Switching Units

To switch between °C and °F, with the meter turned off, long press the CAL button until the unit changes.

Official Product Video

Your browser does not support the video tag.

Watch this official video from Apera Instruments for a visual guide on using the Salt20 Salinity Tester Kit. This video provides an overview of the product's features and basic operation.

CALIBRATION

1-Point Auto Calibration

The Salt20 Salinity Tester uses a 1-point auto calibration process with auto buffer recognition. It is recommended to calibrate the meter regularly for accurate results, especially before critical measurements or if the meter has not been used for a long time.



Effortless Calibration

Complete kit with ready-to-use calibration solutions

The Salt20 Salinity Tester features effortless single-button auto calibration with auto buffer recognition, simplifying the calibration process.

- Prepare Solution:** Pour a small amount of the 12.88 mS/cm (6.44 ppt) calibration solution into a clean beaker.
- Enter Calibration Mode:** With the meter turned on, short press the CAL button. The display will show "CAL" and the calibration value.
- Immerse Sensor:** Dip the sensor into the calibration solution. Stir gently.
- Wait for Stability:** The meter will automatically recognize the calibration solution. Wait for the smiley face icon to appear and remain stable. The calibration success symbol (M) will also appear.
- Exit Calibration:** Short press the MEAS button to exit calibration mode and return to measurement mode.

Note: Always use fresh calibration solution for each calibration. Do not pour used solution back into the bottle.

MAINTENANCE

Sensor Cleaning

The BPP (Brush-Resistant Platinum Black) sensor is robust but requires proper cleaning to maintain accuracy.

1. After each use, rinse the sensor thoroughly with distilled or deionized water.
2. If there is visible contamination, gently brush the sensor with a soft brush (like a soft toothbrush) while rinsing.
3. For stubborn deposits, soak the sensor in a mild detergent solution for 10-15 minutes, then rinse thoroughly.
4. Never wipe the sensor with abrasive materials or apply excessive force, as this can damage the platinum black coating.

Storage

For long-term storage, ensure the sensor is clean and dry. Replace the protective cap. Store the meter in its carrying case in a cool, dry place.

TROUBLESHOOTING

Common Issues and Solutions

Issue	Possible Cause	Solution
Inaccurate Readings	Sensor dirty; Calibration needed; Expired calibration solution	Clean sensor; Perform calibration; Use fresh calibration solution
No Display / Meter Won't Turn On	Dead batteries; Incorrect battery installation	Replace batteries; Check battery polarity
"Out-of-Range" Warning	Salinity level exceeds 10.0 ppt	The meter's range is 0-10.0 ppt. For higher ranges, a different meter is required.
Slow Response	Sensor needs cleaning	Clean the sensor thoroughly

SPECIFICATIONS

Technical Specifications

Parameter	Value
Salinity Range	0 - 10.0 ppt
Salinity Accuracy	±1% F.S
Temperature Range	0 - 50°C (32 - 122°F)
Temperature Compensation	Automatic (0-50°C)
Calibration	Auto 1-point
Power Supply	4 x AAA Batteries
Battery Life	Up to 1000 hours
Waterproof Rating	IP67 (Dust-proof and Water-proof, Floatable)
Auto Power Off	8 minutes of no operation
Dimensions	7.01 x 1.61 x 1.18 inches

Parameter	Value
Weight	3.8 ounces

WARRANTY AND SUPPORT

Warranty Information

Apera Instruments provides a limited warranty for its products. Please refer to the official Apera Instruments website or the warranty card included with your product for specific warranty terms and conditions.

Customer Support

For technical assistance, troubleshooting, or inquiries about replacement parts and accessories, please contact Apera Instruments customer support.

Website: www.aperainst.com

Email: Refer to your product documentation for specific contact email.

Phone: Refer to your product documentation for specific contact phone number.