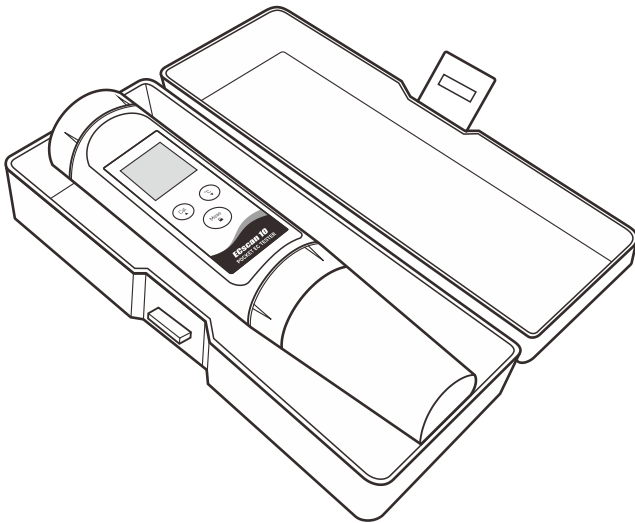


ECscan10 Pocket Conductivity Tester

# USER MANUAL

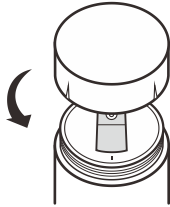


## Overview

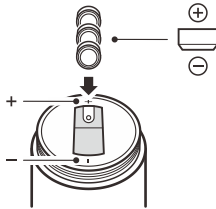
Thank you for selecting the ECscan series pocket conductivity tester. This user manual provides a step-by-step guide to help you operate the tester, please carefully read the following instructions before use.

### Installing the Batteries

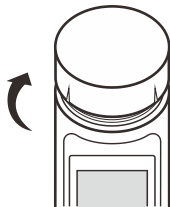
1. Remove the battery compartment lid.



2. Insert three LR44 alkaline batteries into the battery compartment, note polarity.



3. Replace the battery compartment lid to its original position and turn clockwise until tight.

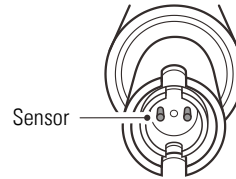


### Keypad

Key	Function
	<ul style="list-style-type: none"> <li>• Switch the tester on or off</li> <li>• Lock or unlock measurement</li> <li>• Confirm or exit the calibration mode</li> <li>• Return to the conductivity measurement mode</li> </ul>
	<ul style="list-style-type: none"> <li>• Press and hold the key to start the calibration</li> <li>• Increase value during the setting</li> </ul>
	<ul style="list-style-type: none"> <li>• Show the temperature readings</li> <li>• Decrease value during the setting</li> </ul>

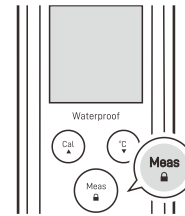
## Prior to Use

Remove the protective cap from the bottom of the tester. If the sensor has dried out, soak the electrode for about 10 minutes in tap water.



## Switching the Tester On and Off

- Press the **Meas** key to switch on the tester.
- Press and hold the **Meas** key to switch off the tester.



If you do not press any key within 8 minutes, the tester will switch off automatically to conserve energy.

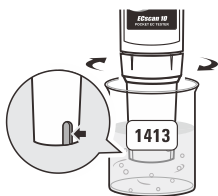
## Conductivity Calibration

The ECscan10 conductivity tester allows 1 point calibration. For better accuracy, we recommend to calibrate the tester regularly. The following table shows acceptable standard solutions for each tester.

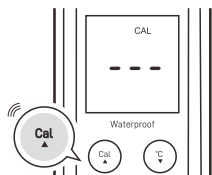
Model	Standard Solution Range	Default
ECscan10L	100 to 180 $\mu\text{S}/\text{cm}$	146.5 $\mu\text{S}/\text{cm}$
ECscan10M	1000 to 1800 $\mu\text{S}/\text{cm}$	1413 $\mu\text{S}/\text{cm}$
ECscan10H	10 to 18 $\text{mS}/\text{cm}$	12.88 $\text{mS}/\text{cm}$

Make sure that using a fresh standard solution during the calibration. DO NOT reuse the standard solution after calibration, contaminants in solution will affect the calibration and eventually the accuracy of the measurement.

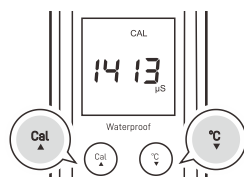
1. Rinse the electrode with distilled water and place into the standard solution, stir tester gently to remove air bubbles trapped in the slot of the sensor.



- Press and hold the **Cal** key to enter the calibration mode, the display shows ---.



- Press the **▲ / ▼** key to set the calibration value, make sure that the displayed value matches the calibration standard.



- Press the **Meas** key, the calibration value will automatically flash three times.



- Press the **Meas** key again, the tester returns to the measurement mode, the CAL icon disappears from the display. Calibration is completed.



- During the calibration, if the display shows **ERR** indicating that the measured conductivity value deviates from the theoretical value of the standard solution. The calibration will not be accepted. Please replace the fresh standard solution and calibrate the tester again.
- During the setting, press and hold the **▲ / ▼** key will make the value change faster.
- If you want to exit the calibration, DO NOT press the **Meas** key in the step 4. Press and hold the **▲ / ▼** key until the display shows ---, press the **Meas** key to exit.

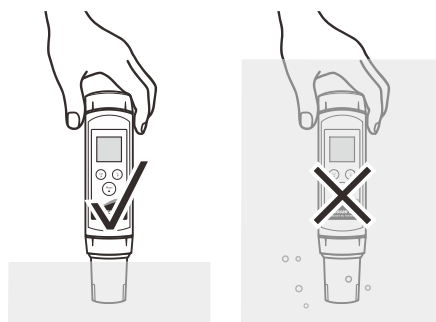
## Measurement

### Conductivity Measurement

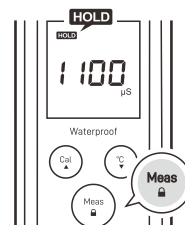
Rinse the electrode with distilled water, place the electrode into the sample solution and stir gently, make sure that no air bubbles on the sensor surface. Wait for the measurement to stabilize and record the reading.



- During the measurement, DO NOT completely immerse the tester in water.



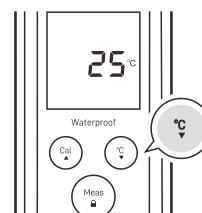
- Press the **Hold** key, the tester will lock the measurement, the HOLD icon appears on the display. Press the key again to resume measurement.



- If the display shows **!** indicating the measurement exceeds the range, remove the tester from the sample immediately.

### Temperature Measurement

- Press the **°C** key, the tester shows the temperature readings.
- Press the **Meas** key to return to the conductivity measurement.



## Electrode Maintenance and Replacement

- Rinse the electrode thoroughly with distilled water after use.
- Do not touch the platinum black coating on the sensor surface and always keep it clean.
- If there is a build-up of solids inside the sensor, remove carefully, then recalibrate the tester.
- If you do not use the tester for long periods, remove the batteries.

### Replacing the Electrode

If the tester fails to calibrate or gives fluctuating readings, you should consider replacing the electrode.

1. Twist the electrode collar counter clockwise, pull the electrode away from the tester.



2. Align the slot on the new electrode, gently push the electrode into the tester.



3. Twist the electrode collar clockwise until tight.



## Appendix

### Preparation of Conductivity Standard Solutions

Place the analytical grade potassium chloride (KCl) in a beaker and dry in an oven for about 3 hours at 105°C (221°F), then cool to room temperature. Add the reagent to a 1 liter volumetric flask according to the instructions in table below. Fill the distilled water to the mark, mix the solution until the reagent is completely dissolved.

Conductivity Standard	Reagent	Weight
146.5 $\mu\text{S/cm}$	KCl	74.4 mg
1413 $\mu\text{S/cm}$	KCl	745.5 mg
12.88 mS/cm	KCl	7.45 g

### Optional Accessories

Order Code	Description
E-ECscan-C1-100K	2-pole conductivity cell, K=1
ECCS-146	Standard solution 146.5 $\mu\text{S/cm}$ , 480 ml
ECCS-1413	Standard solution 1413 $\mu\text{S/cm}$ , 480 ml
ECCS-1288	Standard solution 12.88 mS/cm, 480 ml

### Tester Specifications

Model	ECscan10
Conductivity	
	ECscan10L: 1.0 to 199.9 $\mu\text{S/cm}$
Range	ECscan10M: 10 to 1999 $\mu\text{S/cm}$ ECscan10H: 0.1 to 19.99 mS/cm
Resolution	0.1, 1
Accuracy	$\pm 1\%$ F.S
Calibration Point	1 point
	ECscan10L: 146.5 $\mu\text{S/cm}$
Calibration Solution	ECscan10M: 1413 $\mu\text{S/cm}$ ECscan10H: 12.88 mS/cm
Temperature Compensation	0 to 50°C, automatic
Temperature	
Range	0 to 50°C
Resolution	1°C
Accuracy	$\pm 1^\circ\text{C}$
Other Specifications	
Cell Constant	K=1
Operating Temperature	0 to 50°C (32 to 122°F)
Storage Temperature	0 to 60°C (32 to 140°F)
Relative Humidity	< 80% (non-condensing)
IP Rating	IP65
Display	LCD, 21 × 21 mm (0.82 × 0.82 in.)
Power Requirements	3 × 1.5V LR44 micro alkaline batteries
Auto-Off	8 minutes after last key pressed
Dimensions	185 (L) × 40 (Ø) mm (7.28 × 1.57 in.)
Weight	100g (3.5 oz.)

## Disposal

This product is required to comply with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive 2002/96/EC and may not be disposed of in domestic waste. Please dispose of product in accordance with local regulations at the collecting point specified for electrical and electronic equipment.



## Warranty

The warranty period for tester is one year from the date of shipment. Above warranty does not cover the electrode and standard solution.

Out of warranty products will be repaired on a charged basis.

The warranty on your tester shall not apply to defects resulting from:

- Improper or inadequate maintenance by customer
- Unauthorized modification or misuse
- Operation outside of the environment specifications of the products

For more information, please contact the supplier.



Office: 4715 Castlewood St., Sugar land, TX 77479, USA


Tel: (+1) 346-762-7358

E-mail: banteinstruments@yahoo.com

Factory: 2185 Laifang Rd., Shanghai 201615, China

Tel: (+86) 21-6404-1598

E-mail: banteinstrument@hotmail.com

 [www.bante-china.com](http://www.bante-china.com)



The information in this document is subject to change without notice.  
Copyright © Bante Instruments Inc, 2022. All rights reserved.