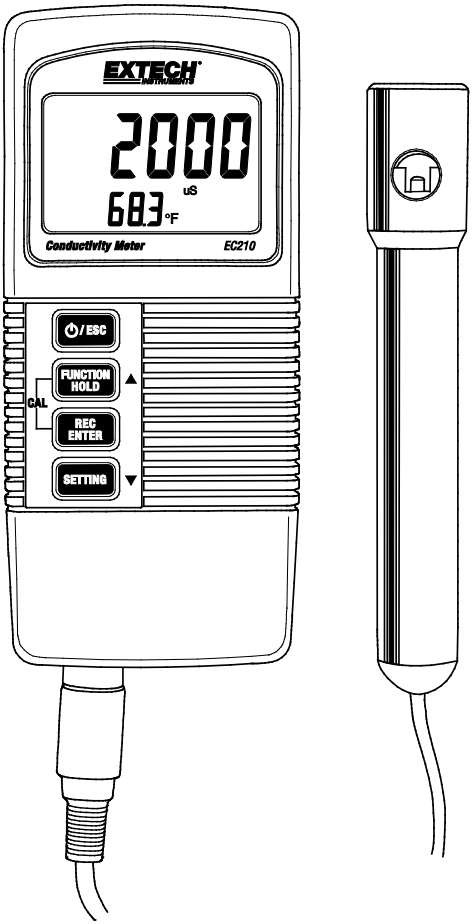
EXTECH®

USER MANUAL

Conductivity Meter

Model EC210



User Manual translations available at www.extech.com

Introduction

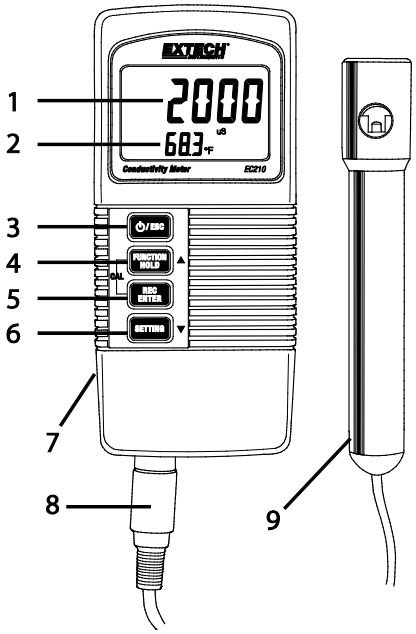
Thank you for selecting the Extech EC210 conductivity meter. The EC210 simultaneously indicates conductivity and temperature readings. conductivity is measured with a remote electrode which includes a thermistor temperature sensor. This device is shipped fully tested and calibrated and, with proper use, will provide years of reliable service. Please visit our website (www.extech.com) to check for the latest version of this user manual.

Features

- *Three ranges 2000µS, 20mS, and 100mS with auto range*
- *Conductivity, TDS, and temperature readings*
- *Detachable probe for ease of use in a variety of measurement environments*
- *Carbon rod electrode type for longevity*
- *Data Hold freezes displayed reading*
- *Record and recall MIN/MAX readings*
- *Selectable °C/°F temperature units, auto power off, and temperature compensation*

Meter Description

1. Primary reading
2. Temperature reading
3. Power/Escape button
4. Function/Hold/Up arrow button
5. Record/Enter button
6. Setting/Down arrow button
7. Battery compartment (rear)
8. Probe connection
9. Probe



Conductivity Calibration

1. Connect the conductivity electrode to the input socket at the bottom of the meter.
2. Switch the meter ON by pressing the POWER/ESC button.
3. Prepare a conductivity Standard Solution (1413μS/cm, for example).
4. Hold the probe by its handle and immerse the sensing electrode completely in the standard solution. Shake/stir the sensing electrode to allow the electrode's internal air bubbles to escape from the sensing electrode.
5. Press the HOLD button and the display will show the HOLD icon.
6. Press the REC button and the upper display will show CAL and the lower display will show YES. To abort, simply wait and the meter will return to the normal operating mode.
7. To continue, press the ENTER button and the display will show the conductivity reading, the measurement unit, and, shortly after, the flashing CAL icon. Note that the meter will show END if the electrode does not detect an appropriate solution value.
8. While the CAL icon is flashing use the arrow buttons to adjust the displayed conductivity reading to match the conductivity solution.
9. After a few seconds the meter will display END. Calibration is complete.

Conductivity Measurements

Measurement Preparation

Before taking measurements, perform the calibration described above.

Conductivity Measurements

1. Connect the electrode to the probe input socket.
2. Switch the meter ON by pressing the POWER/ESC button.
3. If the display does not show conductivity units (µS or mS), long press the FUNCTION button until the conductivity units are displayed.
4. Hold the electrode in hand and fully immerse the sensing head in the standard solution.
5. The lower display shows the temperature value.
6. The upper display shows the conductivity value.
7. Rinse the probe with distilled water after each use.

TDS Measurements

1. Connect the electrode to the probe input socket at the bottom of the meter. Immerse the probe in the measurement solution.
2. Switch the meter ON by pressing the POWER/ESC button. Long press the FUNCTION button until the ppm units are displayed.
3. Hold the electrode in hand and fully immerse the sensing head in the standard solution.
4. The lower display shows the temperature value.

5. The upper display indicates the TDS value (measured in ppm).
6. Rinse the probe with distilled water after each use.
7. Long press the FUNCTION button to return to the conductivity mode.

Solution Temperature

The lower display indicates the temperature of the measured solution. Refer to the Setup Mode section for instructions on selecting °C/°F temperature units and for adjusting the automatic temperature compensation.

Data Hold

Press the HOLD button to freeze the displayed reading. The **HOLD** display icon will appear with the held reading. Press the HOLD button again to release the data hold function.

MIN-MAX Recording

The record function stores the MIN and MAX readings for later recall.

1. Press the REC button and the REC indicator will appear.
2. Press the REC button again and the REC MAX indicator will appear with the maximum reading. Press REC again and the REC MIN indicator will appear with the minimum reading.
3. To clear the MIN/MAX memory, press the HOLD button while either the REC MAX or REC MIN icons are visible; now only the REC icon will be visible. The meter is now continuing to monitor the highest (MAX) and lowest (MIN) readings but is displaying real time measurements. To view the MAX and MIN readings use the REC button as described above.
4. To exit the Record mode, long press the REC button. The REC indicator will switch OFF.

Setup Mode

Note: Setup mode is inaccessible when the HOLD or MIN/MAX functions are active.

To enter the Setup Mode, long press the SETTING button for at least 5 seconds (until a beep is heard). Use the SETTING button to scroll through these options:

- **SEt** Automatic temperature compensation percentage. Settable from 0.00 to 5.00% per °C (the default is 2.00%). Set to 0.00% to take uncompensated conductivity measurements. When power is cycled, this parameter will revert to the default 2.00%
- **°C/F** Select the temperature units (°C °F)
- **OFF/ON** Auto power off disable/enable

Temperature Compensation Percent Setting (SEt)

When the display shows **Set**, press ENTER. **SEt** will flash and the upper display will show the temperature compensation percentage. Use the ▲ and ▼ buttons to set the desired compensation. Press ENTER to save, and the display will show the temperature units. Continue below:

Temperature Units Selection

The lower display shows **C** or **F**. Use the ▲ button to select the desired unit of measure, press ENTER to save. The lower display will show **OFF YES** or **NO**. Continue below:

Auto Power OFF Enable/Disable

The display will show **OFF YES** or **OFF NO**. Use the ▲ button to select YES or NO.
YES: Auto power OFF is enabled (meter switches off automatically after 10 minutes)
NO: Auto power OFF is disabled
Press ENTER to save; the meter will return to the normal operating mode.

Battery Replacement

When the battery icon flashes on the display, replace the 9 V battery.

1. Switch the meter OFF and disconnect the probe from the instrument.
2. Open the rear battery compartment by removing the two Phillips head screws.
3. Carefully remove the battery and gently unsnap the battery terminals from the wired (red/black) connectors.
4. Snap the new battery terminals onto the wired connectors (observing correct polarity).
5. Insert the battery assembly into the meter and secure with the two screws.

Please dispose of batteries responsibly and in accordance with all applicable laws and regulations.

Specifications

General Specifications

Circuit	Custom one-chip LSI microprocessor circuit
Display	Dual function LCD Dimensions: 1.7 x 1.1 in. (44 x 29 mm)
Measurements	Conductivity, TDS, temperature
Data Hold	Freezes displayed reading
MIN-MAX	Record and recall lowest and highest readings
Auto power off	Meter switches off after 10 minutes (can be disabled)
Sample rate	1 reading per second (approx.)
Operating conditions	Temperature: 32 to 122°F (0 to 50°C); Humidity: < 80% RH
Battery power	9 V alkaline battery
Power Consumption	Approx. 6.0 mA DC
Weight	0.65 lbs. (295 g) including battery and probe
Dimensions	Meter: 5.3 x 2.4 x 1.3 in. (135 x 60 x 33 mm) Probe diameter: 0.87 in. (22 mm) Probe length: 4.72 in. (120 mm)

Electrical Specifications

Measurement	Range	Resolution	Accuracy
Conductivity	20.00 mS/100.0 mS/2000 μS	0.01mS/0.1mS/1μS	$\pm$ (2%FS+1dgt)
TDS	1,200/12,000/66,000 ppm	1/10/100ppm	$\pm$ (2%FS+1dgt)
Conversion	1mS/cm = 660ppm		
Automatic Temperature Compensation range	0 to 50°C (32 to 122°F)		

Two-year Warranty

Teledyne FLIR warrants this Extech brand instrument *to be free of defects in parts and workmanship for* ***two years*** *from date of shipment. To view the full warranty text please visit:*
https://www.flir.com/support-center/warranty/instruments/extech-product-warranty/

Calibration and Repair Services

Teledyne FLIR offers calibration and repair services *for the Extech brand products we sell. We offer NIST traceable calibration for most of our products.*

Customer Support

Local Telephone Support List: *https://support.flir.com/contact*

Return Material Authorization (RMA): *https://customer.flir.com/Home*

Customer Service: *https://support.flir.com/ContactService*

Technical Support: *https://support.flir.com*

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