8500
CONDUCTIVITY METER

Operating Instructions

To begin taking measurements, turn the instrument on and remove the cap or bottle covering the electrode. Use the MODE button to select the measurement range. Calibrate the unit as per instructions in the Calibration section.

INSTRUMENT FUNCTIONS

MODE - pressing the MODE button gives the option to display and measure EC (mS/cm), Temperature (°C/°F) or TDS (ppm).

HOLD - Press the HOLD button to freeze the display. 'HOLD' will appear in the display. Press again to continue measuring.

AUTO-OFF - The instrument will switch off automatically after 10 minutes. To disable the auto-off function press and hold the '▲' button whilst switching on the unit - 'auto-off disable' will be displayed in the LCD if successful.

Please note: when the unit is turned off the 'auto-off' function will be re-enabled.

°C/°F SELECTION - Press and hold the 'MODE' button for 3 seconds to switch the units between °C and °F whilst in temperature mode.

PPM SCALE SELECTION – If using a solution for a ppm reading, different manufacturers use different scales or multiplication factors. The 3 most common are 500, 640 & 700. Press and hold the 'MODE' button for 3 seconds to switch between the different scales whilst in TDS mode. The ETI solution (816-071) has a ppm scale of 700.

ATC – ATC stands for Automatic Temperature Compensation. This meter is fixed with an ATC value of 2%/°C. For best accuracy, measurements should be taken in an environment between 20 °C (68 °F) – 30 °C
(86 °F). The meter is guaranteed to be within spec between 0 °C (32 °F) – 50 °C (122 °F). The further from 25 °C the liquid to be measured is, the less reliable the results

CALIBRATION

It is recommended that you calibrate the unit often to achieve consistent and accurate results. This unit should be used in conjunction with the 816-071 calibration solution (sold separately) to maintain accurate readings.

The meter should be in EC mode to enter calibration mode.
Turn the meter on and place the electrode into the calibration solution, or fill the test cap with solution and attach to the electrode. Stir the solution and allow 2 minutes for the thermal equilibrium to be reached. If the displayed reading does not match the calibration solution, press and hold down the 'CAL' button for approx. 3 seconds. 'CAL' will appear flashing on the display above the current reading.

Adjust the reading by using the up (▲) or down (▼) buttons until readings in the LCD match the calibration solution value. Press the 'CAL' button to confirm. 'donE' will be displayed and the current reading will show in the LCD. The instrument is now in measurement mode, and can proceed to take your sample readings. To abort calibration at any point, press the 'ON/OFF' button - the meter will revert to any previous calibration values.

To enter cal mode, the instrument must be measuring something, if it is open circuit (reading 0.00mS) then it cannot enter cal mode.

Please note: Calibration should be carried out regularly to ensure best accuracy.
If measuring any liquid, simply remove the cap and place the electrode directly into the solution. Alternatively, if measuring the EC or TDS of soil, take a sample of the soil and extract the water from it into the cap of the electrode.
Wait a few minutes for thermal equilibrium to be reached for the most accurate measurement. Rinse with de-ionised/distilled water in-between measurements from different samples. To prolong the life of the electrode, please read the Care & Maintenance and Storage & Cleaning sections.

ERRORS

TEMPERATURE – 't. Err' is displayed if the temperature readings are above 50 °C (122 °F) or below 0 °C (32 °F).

CONDUCTIVITY – The meter will continue to measure outside the specified range, but if it goes above 6mS/cm, 'EC.Err' will be displayed while in EC or TDS mode.

CARE & MAINTENANCE

This Conductivity meter, if maintained correctly, should give years of service.
Over time the electrode sensor will degrade, but regular calibrating, cleaning and the correct storage of the unit will prolong its life.

ELECTRODE STORAGE & CLEANING

Always rinse the electrode with cleaning solution (please see Electrode Maintenance section on website) or de-ionized/distilled water before next use. If this is not available tap water can be used. Do not touch/rub the electrode or clean with harsh materials. If the meter has not been used for a while, place the probe in a solution for 10-20 minutes with the power on (Make sure to disable auto-off) then calibrate.

BATTERY REPLACEMENT

Replace the battery when low bat icon ' ▭ ' is displayed. This meter will continue to measure accurately but after further usage the meter will display 'FLAt bAt' and shutdown. Remove the battery cover with a small, flat-headed screwdriver and replace the three AAA batteries, ensuring the polarities are correct.

QUICK LOOK SPECIFICATIONS

Range	0.0 to 50.0 °C 0.00 to 5.00 mS/cm 0 to 3500 ppm
Resolution	0.1 °C 0.01mS/cm 1ppm
Accuracy	± 0.5 °C ± 2% F.S mS/cm ± 2% F.S ppm
EC Calibration	Manual, 1 point
Battery Type	3 x AAA
Battery Life	5000 + hours*

*If used within specifications

GUARANTEE - This instrument carries a two-year guarantee against defects in either components or workmanship. During this period, products that prove to be defective will, at the discretion of ETI, be either repaired or replaced without charge. This guarantee does not apply to probes, where a six-month period is offered. The product guarantee does not cover damage caused by fair wear and tear, abnormal storage conditions, incorrect use, accidental misuse, abuse, neglect, misapplication or modification.
Full details of liability are available within ETI's Terms & Conditions of Sale at etiltd.com/terms.
In line with our policy of continuous development, we reserve the right to amend our product specification without prior notice.

CE UK CA

Manufactured by
Electronic Temperature Instruments Ltd
Worthing · West Sussex · BN14 8HQ
01903 202151 · sales@etiltd.com · etiltd.com

545-528WEB/24.01.24