Quick Calibration

Select calibration type "CAL quic " from meter setup.

- Enter calibration mode.
- Immerse the probe in the HI50036 calibration solution.
- When the standard values is recognized and stability is reached the meter automatically accepts the calibration.
- The LCD will display "Stor" for 1 second and return to normal measurement mode.
- If the standard is not recognized or the slope is out of accepted range "----Err' is displayed. Change the calibration solution, clean the electrode or press any key to exit calibration.
- When the calibration procedure is completed, the "CAL" tag is turned on.
- After entering in the calibration mode and before the point is accepted, it is possible to quit the procedure and return to the last calibration data by pressing the CAL button. The LCD displays "----ESC" for 1 second and the meter returns to measurement mode.

EC Measurement and Calibration

For better accuracy, frequent calibration of the meter is recommended. In addition, the instrument must be recalibrated:

- When high accuracy is required.
- At least once a month.

Measurement

Press the ON/OFF button to turn the meter ON. Place the probe to the desired solution. The conductivity value, automatically compensated for temperature, will be shown on the LCD.
The measured temperature will be shown on the secondary LCD.

Note: Before taking any measurement make sure the meter has been calibrated.

Calibration Procedure

- Press CAL button to enter calibration mode from measurement mode.
- The meter will enter the calibration mode, displaying "mS/cm 1.41 USE" with CAL tag blinking.
1. Pour 2" (5 cm) of standard solution into a container.
2. Place the probe in calibration solution. The probe tip should be centered in the solution and submersed 1.18" (3 cm). The meter will automatically recognize the solution.
3. If the solution is not recognized or is out of the accepted range "---- Err" is displayed.
4. If the buffer is recognized "REC" is displayed until the reading is stable and the calibration is accepted.
- After acceptance, the "Stor" message is displayed and meter returns to measurement mode.

Clear Calibration

Place meter in calibration mode. Press ON/OFF and "CLR" is displayed. The meter will now be at default calibration.

Error messages

During user calibration, if the reading is out of the accepted range, the meter will display "---- Err".i.e. 3000 ppm blinking means the limit of the measured value is out of range.

If the measured temperature is higher than 50.0 ºC or lower than 0.0 ºC, the 50.0 ºC or 0.0 ºC temperature value will blink on the LCD in measure mode.

Care and Maintenance

To obtain the highest accuracy for measurements it is important to follow these tips:

- Calibration is only as good as the solution being used. The calibration solution values change over time. Fresh solution should be used for each calibration.
- The probe should be rinsed with purified water each time before placing in calibration solution or sample to be tested.

Battery Replacement

The meter features a low battery indicator. When the battery is running low (under 10%), the battery indicator will blink on the LCD. When the battery is discharged **"dEAd bAtt"** will be displayed on the LCD for 2 seconds and the meter will turn off.
To change the CR2032 Li-ion battery, turn the battery cover located on the back of the meter counterclockwise to unlock. Remove cover and replace with new battery + side facing up.

Note: Batteries should only be replaced in a safe area using the battery type specified in this instruction manual. Old batteries should be disposed in accordance with local regulations.

Accessories

Solutions

Code	Description
HI5036-023	Quick Cal pH and EC one-point calibration solution, 230 mL bottle
HI50036P	Quick Cal pH and EC one-point calibration solution, 20 mL sachets (25 pcs.)
HI70031P	1413 μS/cm calibration solution, 20 mL sachets (25 pcs.)
HI7031L	1413 μS/cm calibration solution, 500 mL bottle
HI8031L	1413 μS/cm calibration solution, FDA approved, 500 mL bottle

Warranty

These meters are warranted for a period of one year against defects in workmanship and materials when used for their intended purpose and maintained according to instructions. Probes are warranted for a period of six months. This warranty is limited to repair or replacement free of charge. Damage due to accidents, misuse, tampering or lack of prescribed maintenance is not covered. If service is required, contact your local Hanna Instruments Office. If under warranty, report the model number, date of purchase, serial number and the nature of the problem. If the repair is not covered by the warranty, you will be notified of the charges incurred. If the instrument is to be returned to Hanna Instruments, first obtain a Returned Goods Authorization (RGA) number from the Technical Service department and then send it with shipping costs prepaid. When shipping any instrument, make sure it is properly packaged for complete protection.

GroLine

HI98318
Waterproof EC/TDS Tester

GroLine
EC/TDS

waterproof

HANNA instruments®

Thank You

Thank you for choosing a Hanna Instruments product. Please read this instruction manual carefully before using the instrument.

For more information about Hanna Instruments and our products, visit www.hannainst.com or e-mail us at sales@hannainst.com.

For technical support, contact your local Hanna Instruments Office or e-mail us at tech@hannainst.com

Find your local Hanna Instruments Office on www.hannainst.com

Preliminary Examination

Remove the meter from the packing material and examine it carefully to make sure that no damage has occurred during shipment. If noticeable damage is evident, contact your local Hanna Instruments Office.
Each meter is supplied with:

- CR2032 battery (1 pc.)
- Storage / Protection sleeve
- Instruction manual
- Quality Certificate
- Quick Cal pH and EC one point calibration solution sachet (4 pcs.)
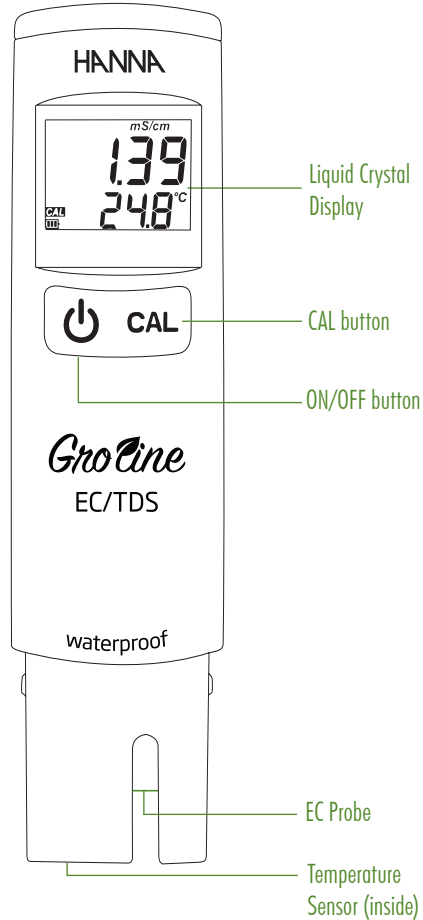
Note: Save all packing material until you are sure that the instrument functions correctly. All defective items must be returned in the original packaging with the supplied accessories.

Preparation

The probe is shipped dry. Before using the electrode, remove the protective cap. Then follow the calibration procedure.

- Turn the tester on by pressing ON/OFF button.
- Remove the protective cap and immerse the tip of the probe in the sample to be tested.
- Stir gently and wait for a stability tag to disappear.
- The electrode automatically compensates for temperature variations.
- The reading on display is directly expressed in: mS/cm or ppm.
- For best results, recalibrate periodically.
- After use rinse the probe with water.
- Always replace the protective cap after each use.

Operation

Liquid Crystal Display

CAL button

ON/OFF button

GroLine
EC/TDS

waterproof

EC Probe

Temperature Sensor (inside)

Specifications

Range	EC/TDS	0.00 to 6.00 mS/cm 0 to 3000 ppm (0.5) CF 0 to 4000 ppm (0.7) CF 0.0 to 50.0 °C (32.0 to 122.0 °F)
Resolution	EC/TDS	0.01 mS/cm 10 ppm (0.5) CF 10 ppm (0.7) CF 0.1 °C (0.1 °F)
Accuracy (@25 °C/77 °F)	EC/TDS	±2% F.S. ±0.5 °C (±1.0 °F)
TDS Conversion factor (CF)*		0.5 (500 ppm) or 0.7 (700 ppm)
Calibration Solutions	HI50036 (Quick Cal)	HI70031 (1.41 mS/cm)
Calibration		automatic, single point (1.41 mS/cm)
Quick calibration		one point calibration using Quick Cal pH and EC one point calibration solution HI50036
Temperature Compensation		automatic, 0.0 to 50.0 °C (32.0 to 122.0 °F)
Battery type		CR2032 Li-Ion 3V (1 pc.)
Battery life		approximately 250 hours of continuous use
Environment		0 to 50 °C (32 to 122 °F); RH 100% max
Weight (without battery)		68 g (2.4 oz.)

*1000 μS/cm = 500 ppm with 0.5 CF

Recommendations for Users

Before using Hanna Instruments products, make sure that they are entirely suitable for your specific application and for the environment in which they are used. Any variation introduced by the user to the supplied equipment may degrade the instrument's performance. For yours and the instrument safety do not use or store the instrument in hazardous environments.

Operational Guide

To turn the meter ON and check the battery status

Press the ON/OFF button to turn the meter on. At start-up, all the LCD segments are displayed for 1 second, then the percent indication of the remaining battery life is displayed for another second. The meter then enters the normal measuring mode.

Note: Keeping the ON/OFF button pressed while turning the meter on will display all LCD segments as long as the button is pressed.

To enter calibration mode

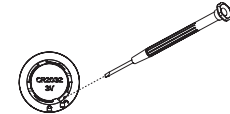Press the CAL button. "CAL" message is displayed.

To enter setup mode

Remove the battery cover and press the Setup button located on the side of the battery.

Meter Setup

While in measurement mode, remove the battery cover. Press the Setup button located on the side of the battery in the battery compartment. The meter will enter in setup mode. Press the ON/OFF button to move through setup parameters. Change option by pressing CAL button. The default settings are: "Set t" measure unit - °C, "AOFF" - 8 min, "CAL" - standard and EC unit.

Setup Button

To select the temperature unit (°C/°F)

To select the temperature unit when "SET t" is displayed press the CAL button to change between °C or °F.

To select the Auto-Off time

To select the AUTO OFF when "AOFF" is displayed press the CAL button to change between 8 min, 60 min or --- (disabled).

To select calibration type

To select calibration type when "CAL" is displayed press the CAL button to choose from "CAL STD" (standard calibration) or "CAL quic "(one-point quick calibration).

To select EC or TDS

To select TDS measurement with 0.5 TDS factor press CAL button until "ppm 500 UNIT" is displayed. To select TDS measurement with 0.7 TDS factor press CAL button until "ppm 700 UNIT" is displayed. By pressing CAL button again "mS/cm EC UNIT" is selected.

To return to measurement mode

Press the ON/OFF button.