



HI981074 Pocket-sized pH Meter



Certification

All Hanna Instruments conform to the CE European Directives.



Disposal of Electrical & Electronic Equipment. The product should not be treated as household waste. Instead hand it over to the appropriate collection point for the recycling of electrical and electronic equipment which will conserve natural resources.

Disposal of waste batteries. This product contains battery, do not dispose of it with other household waste. Hand it over to the appropriate collection point for recycling.

Ensuring proper product and battery disposal prevents potential negative consequences for the environment and human health. For more information, contact your city, your local household waste disposal service, the place of purchase or go to www.hannainst.com.

Recommendations for Users

Before using this meter, make sure that it is entirely suitable for your specific application and for the environment in which it is used. Avoid touching the electrode at all times. Any variation introduced by the user to the supplied equipment may degrade the meter's performance. For your and the meter's safety do not use or store the meter in hazardous environments.

Warranty

HI981074 is warranted for a period of one year against defects in workmanship and materials when used for its intended purpose and maintained according to instructions. 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 Office, 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.

Hanna Instruments reserves the right to modify the design, construction, or appearance of its products without advance notice.

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Clear calibration

1. Press CAL button. Meter enters in calibration mode.
2. Press ON/OFF button and CLR is displayed. Meter will be at default calibration.
3. The "CAL" tag will be cleared in measurement mode, indicating the missing calibration, until a new calibration will be performed.

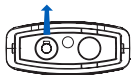
Error Messages

- "----Err" displayed during user calibration indicates that the reading is out of accepted range.
- pH 14.0 or 0.0 displayed blinking indicates that the reading is outside the measurement range limits. Verify that the electrode is in solution.
- The 50.0 °C or 0.0 °C displayed blinking indicates that the measured temperature is out of accepted range.
- "----Err" is displayed if the buffer is not recognised. Check the buffer, clean the electrode or press CAL button to exit calibration.

Care & Maintenance

Please read the information below, to ensure the highest possible accuracy:

- Fresh buffer should be used for each calibration, once the sachets are opened the buffer value can change over time.
- If measurements are taken successively, rinse the probe thoroughly in distilled or deionized water to eliminate cross-contamination.
- When the meter is not in use add several drops of storage solution to a sponge in the protective cap to keep the electrode hydrated. If storage solution is not available, then pH 4.01 or pH 7.01 buffer can be used.
- For improved accuracy a two-point calibration is recommended. Use buffers that bracket the expected value of the sample to be tested.
- In case of erroneous readings even after an accurate conditioning and calibration, the reference junction might be contaminated or clogged. Pull out 2 mm (1/8") of the cloth junction to renew the electrode reference (it is recommended to cut the cloth leaving always at least 2 mm - (1/8") over the reference compartment) and recalibrate the meter. The cloth junction can be pulled out approximately 20 times.



- If the electrode or junction is dirty, soak the tip in HI70614 cleaning solution for 30 minutes, rinse thoroughly in distilled water and then follow cleaning procedure.

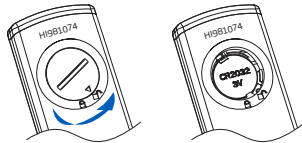
Removal of films, dirt or deposits of the membrane/junction

- General Soak in HI70614 General cleaning solution for app. 1 hour.
- Protein Soak in HI7073 Protein cleaning solution for 15 minutes.
- Inorganic Soak in HI7074 Inorganic cleaning solution for 15 minutes.
- Oil & Grease Rinse with HI70774 Oil & Grease cleaning solution.

Note: After performing any of the cleaning procedures rinse the electrode thoroughly with distilled water, and soak in HI703004 Storage solution for at least 1 hour before taking measurements.

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 briefly 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: Only use the battery type specified in this instruction manual. Old batteries should be disposed in accordance with local regulations.

Accessories

pH Buffer Solution

HI700044P	pH 4.01 buffer solution, 20 mL sachet (25 pcs.)
HI700074P	pH 7.01 buffer solution, 20 mL sachet (25 pcs.)
HI700101P	pH 10.01 buffer solution, 20 mL sachet (25 pcs.)
HI77400P	pH 4.01 & 7.01 buffer solution, 20 mL sachet (10 pcs., 5 each)
HI770710P	pH 10.01 & 7.01 buffer solution, 20 mL sachet (10 pcs., 5 each.)

Electrode Cleaning Solution

HI70614L	General purpose cleaning solution, 500 mL
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Electrode Storage Solution

HI703004L	Electrode storage solution, 500 mL
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Dear Customer,

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

Preliminary Examination

Remove the meter and accessories from the packing material and examine it carefully. If you require any further information, please contact Hanna Instruments technical support team at tech@hannainst.com.

HI981074 is delivered in a plastic carrying case and is supplied with:

- HI700044 pH 4.01 buffer solution sachet (1 pc.)
- HI700074 pH 7.01 buffer solution sachet (2 pcs.)
- HI7006014 General purpose cleaning solution sachet (1 pc.)
- Storage / Protection cap
- CR2032 battery
- Instruction manual & Instrument quality certificate

Note: Save all packing material until you are sure that the meter works correctly. Any damaged or defective item must be returned in its original packing material with the supplied accessories.

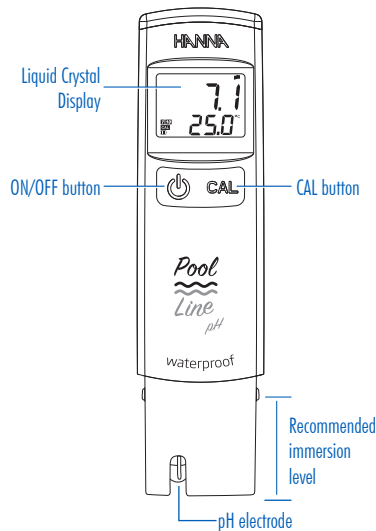
General Description & Intended Use

HI981074 is a pocket-sized pH meter, part of Hanna Instruments pool-line family. It has a compact and waterproof casing, and automatic pH calibration at one or two points. All readings are automatically compensated for temperature variations with a built-in temperature sensor.

Specifications

Range	0.0 to 14.0 pH 0.0 to 50.0 °C (32.0 to 122.0 °F)
Resolution	0.1 pH / 0.1 °C / 0.1 °F
Accuracy	±0.1 pH / ±0.5 °C (±1.0 °F) @25 °C (77 °F)
Calibration	Automatic, one or two-points (pH 4.01, 7.01, 10.01)
Temp. compensation	Automatic, 0 to 50 °C (32 to 122 °F)
Battery type	CR2032 3V Li-ion
Battery life	Approximately 800 hours of continuous use
Environment	0 to 50 °C (32 to 122 °F); RH 100% max
Dimensions	160 x 40 x 17 mm (6.3 x 1.6 x 0.7")
Weight	65 g (2.3 oz.)

Functional Description & LCD Display



Preparation

The pH electrode is shipped dry. Remove the protective cap and condition the electrode by soaking the tip (bottom 3 cm (1.18")) in HI703004 Storage solution or in pH 7.01 buffer solution for several hours. Follow the calibration procedure:

- Do not be alarmed if salt deposits are present. Rinse the probe with water and blot dry.
- Remove the protective cap and immerse the tip of the electrode in the sample to be tested.
- Stir gently and wait for the stability tag to disappear.
- For best results, recalibrate periodically.
- After use, rinse the electrode with water and store it with a few drops of HI703004 storage solution or pH 4.01 or pH 7.01 buffer solution in the protective cap.
- Always put back the protective cap after each use.

Note: Do not use distilled or deionized water for storage purposes.

Large differences in pH readings (± 1.0 pH) could result from lack of calibration or dry electrode.

Note: The electrode tip should be rinsed with purified water (reverse osmosis, distilled, or deionized) before and after placing in any solution (buffer, storage or sample).

Operational Guide

Turn the meter ON

Press the ON/OFF button to turn the meter on. At start-up, all the LCD segments are displayed briefly, followed by the percent indication of the remaining battery life. The meter then enters measuring mode.

Note: Keeping the ON/OFF button pressed while turning the meter on, will keep all LCD segments displayed for as long as the button is pressed down.

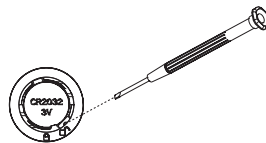
Enter calibration mode

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

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. Press the CAL button to change the settings.

Setup
Button



The default settings are: "Set 1" measure unit - °C, "AOFF" - 8 min. After the last setting, it will exit Setup.

Select the temperature unit (°C or °F)

To select the measurement unit, when "Set 1" is displayed, press the CAL button to select °C or °F.

Select the Auto-Off time

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

Return to measurement mode

Press ON/OFF button to exit the menu.

pH Measurement & Calibration

- Make sure the meter has been calibrated before use.
- If the electrode is dry, soak it in HI703004 Storage solution for 30 minutes to reactivate it.
- Submerge the electrode in the sample to be tested while stirring it gently. Wait until the stability indicator on the LCD disappears.
- The LCD displays the pH value (automatically compensated for temperature) on the first LCD line, and the temperature on the second LCD line.
- If measurements are taken in different samples successively, rinse the electrode tip thoroughly to eliminate cross-contamination. After cleaning, rinse the electrode tip with deionized water and some of the sample to be measured.

pH calibration

1. Enter calibration mode while in pH measurement mode.
2. Place the electrode into the first calibration buffer. If performing a two-point calibration, use pH 7.01 buffer first.
3. The meter will enter the calibration mode, displaying "pH 7.01 USE".

Single-point calibration

1. Place the electrode in buffer pH 7.01, 4.01 or 10.01. The meter will automatically recognize the buffer value.
2. If the buffer is recognized "REC" is displayed until the reading is stable and the calibration is accepted.
3. If the buffer is not recognized, the pH electrode is not immersed in the solution, or the reading is out of the accepted range "---- Err" is displayed.
4. If using pH 7.01, after buffer recognition, press CAL button to exit. "Stor" message is displayed and meter returns to pH measurement mode.
5. If using buffer pH 4.01 or pH 10.01 the "Stor" message is displayed and meter returns to pH measurement mode.
6. The "CAL" tag is displayed when in measurement mode, with the calibrated buffer tag next to it.

Two-point calibration

1. Proceed with steps 1 through 3 under single-point calibration using pH 7.01 buffer first. Then follow steps below:
2. The "pH 4.01 USE" message is displayed.
3. Place the electrode in the second calibration buffer (pH 4.01 or 10.01). When the second buffer is accepted, the LCD will display "Stor" briefly and the meter will return to the normal measurement mode.
4. The "CAL" tag will be displayed in measurement mode with calibrated buffers.
5. If the buffer is not recognized or the slope is out of accepted range "---- Err" is displayed. Change the buffer, clean the electrode or press any key to exit calibration.
6. It is always recommended to carry out a two-point calibration for better accuracy.