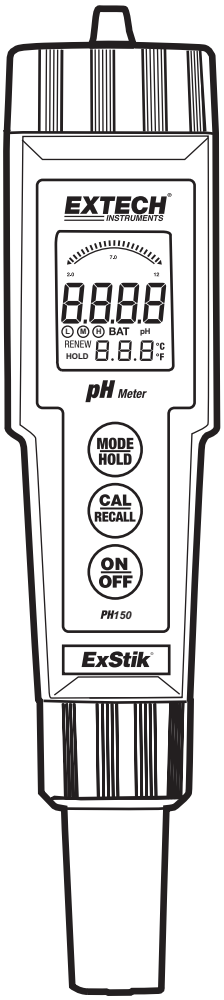
User Guide

EXTECH INSTRUMENTS
A FLIR COMPANY

ExStik™ Concrete pH Kit

Model PH150-C

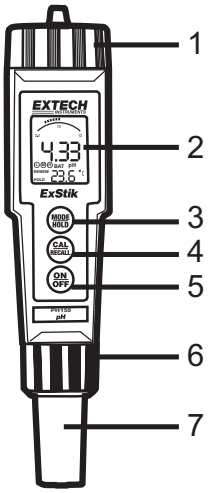


ExStik™ Description

Front Panel Controls

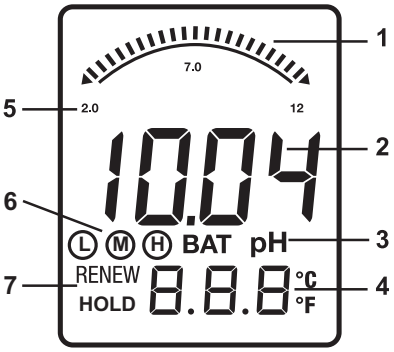
1. Battery compartment cap
2. LCD Display
3. MODE / HOLD button
4. CAL / RECALL button
5. ON/OFF button
6. Electrode collar
7. Electrode

(Electrode cap is not shown)



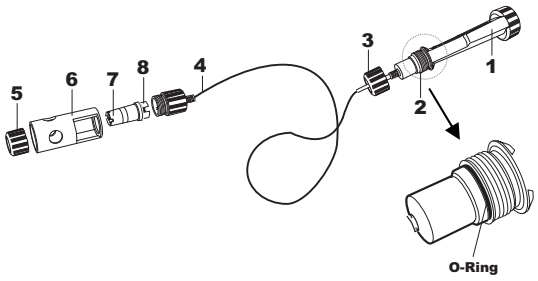
Display

1. Bargraph reading
2. Measurement reading
3. BAT (low battery) indicator and pH unit of measure
4. Temperature display
5. Bargraph scale designations
6. Calibration indicators
7. RENEW and HOLD indicators



Cable and Probe Guard

1. PH150
2. O-Ring
3. Retaining nut
4. Extension cable
5. Retaining nut
6. Probe guard
7. Probe
8. O-Ring



Introduction

Congratulations on your purchase of the ExStik® PH150-C Concrete pH Kit. The PH150-C is designed for pH and temperature measurements on concrete. The flat surface electrode provides fast and easy measurements. The 3 ft extension cable and probe guard/weighted base simplify measurements on flat concrete surfaces. The PH150-C, with careful use and maintenance, will provide years of reliable service.

Overview

Getting Started

- Remove the cap from the bottom of the ExStik™ to expose the electrode glass surface and reference junction
- Before first use or after extended storage, soak the electrode (with its cap removed) in a pH 4 solution for about 10 minutes
- White KCL crystals may be present in the cap. These crystals will dissolve in the soak or they can be simply rinsed with tap water
- Always calibrate close to the expected measurement value
- A sponge is located in the electrode protective cap. Keep this sponge soaked with a pH 4 solution to preserve Electrode life during storage

Replacing Electrodes

The ExStik™ is shipped with an electrode attached. Electrode life is limited and is dependent on (among other factors) frequency of use and care. If the electrode needs to be replaced, follow these steps for removing and connecting electrodes.

1. To remove an electrode, unscrew and completely remove the electrode retaining collar.
2. Gently rock the electrode from side to side, pulling it away from the meter, until it disconnects.
3. To attach an electrode, carefully plug the electrode into the meter socket (note that the electrode connector is keyed, ensuring proper connection).
4. Secure the electrode in place by tightly turning the collar in place. (a rubber O-ring gasket seals the electrode with the meter).

Cable and Guard Installation Instructions:

1. To remove the electrode, turn the instrument OFF and then unscrew the electrode retaining nut, and remove it (turn counter-clockwise to remove).
2. Gently rock the electrode from side to side, pulling it away from the meter until it disconnects from the meter.
3. Attach the electrode to the cable by aligning the slots and pins, and carefully plugging the electrode into the cable socket. Be sure the O-Ring is between the probe shoulder and the threaded end of the cable connecter (see diagram).
4. Tighten the electrode retaining nut firmly to seal the electrode to the cable. Do not overtighten.
5. Attach the meter to the other end of the cable, using the same procedure as described in steps (3.) and (4.).

Note: The guard is not designed to be used without the cable. The cable can be used without the guard if desired.

Operation

Overview

When the electrode is placed in a solution, the main display and bargraph indicate the pH reading while the lower display reads temperature. The bargraph is 'center zero', i.e. at pH 7 there is no display. As the pH rises, the bar moves from the center to the right. If the pH drops, the bar moves from the center to the left.

Powering the ExStik™

The ExStik® uses four (4) CR2032 Lithium Ion Batteries (included). If the batteries are weak, the 'BAT' indicator appears on the LCD. Press the ON/OFF key to turn the ExStik® on or off. The auto power off feature shuts the ExStik® off automatically after 10 minutes of inactivity to preserve battery life.

pH Calibration (1, 2, or 3 points)

1. Place the electrode into a buffer solution (4, 7, or 10). Press and hold the **CAL/RECALL** key until "CAL" appears in the lower (temp.) display. When doing a 2 or 3 point calibration, calibrate with pH 7 buffer first, then follow with pH 4 then the pH 10 buffer.
2. The ExStik® automatically recognizes the solution and calibrates itself to that value (the circled number on the LCD will match the solution). Note that if the solution is more than 1 pH unit off from the L (4), M (7), or H (10) pH buffer, or if the electrode slope is low, the ExStik® will assume an error and abort the calibration (End will be displayed, and the unit will return to measure mode.)
3. During calibration, the pH reading flashes on the main display.
4. When calibration is complete, the ExStik® automatically displays "SA", then "End" and returns to normal operation mode.
5. The appropriate circled indicator (L, M, or H) appears on the LCD when a particular calibration or series of calibrations has been completed within one power on cycle. When the ExStik® is turned off, the circled indicator configuration and the calibration data will be retained.
6. For a two or three point calibration, rinse in distilled water and repeat steps 1-4.

Note: Always turn the meter off and then on before calibrating to allow sufficient time to complete the calibrations during one power cycle. If the meter auto powers off during calibration the calibrations remain valid, but new calibrations will turn the circled indicators off.

Changing the Displayed Temperature Units

To change the displayed temperature units (^{o}C or ^{o}F):

1. With the unit OFF, press and hold down the **CAL/RECALL** button.
2. With the **CAL/RECALL** button depressed momentarily press the **ON/OFF** button. When "SELF CAL" appears in the display release the **CAL/RECALL** button. The unit will power on with temperature displayed in the new units.

Data Hold

Press the **MODE/HOLD** button to hold (freeze) a reading in the display. The meter will enter the HOLD mode and the "HOLD" indicator will appear.

Note: This also stores the reading.

Press the **MODE/HOLD** button again to return to normal operation.

Storing Readings into Memory

1. Press the **MODE/HOLD** button to store a reading. The storage location number will be displayed on the lower display, while the main display shows the stored reading. The meter will enter the HOLD mode and the “HOLD” indicator will appear.
2. Press the **MODE/HOLD** button again to exit the HOLD mode and return to normal operation.
3. If more than 25 readings are stored, previously stored readings (starting with number 1) will be overwritten.

Recalling Stored Readings

Note: Check that the HOLD symbol is not displayed. If it is, exit the HOLD function by momentarily pressing the MODE/HOLD button.

1. Press the **CAL/RECALL** button and then press the **MODE/HOLD** button. A location number (1 through 25) will briefly appear and then the value stored in that location will appear. The displayed units will flash, indicating that the storage recall mode is active.
2. The last stored reading will be displayed first. Pressing and releasing the **MODE/HOLD** button will scroll through the stored readings one at a time. The location number is displayed first, followed by the reading stored in that location.
3. To exit the storage mode, press the **CAL/RECALL** button and the meter will return to normal operation, after displaying “End”.

CAL Reminder Display

When the ExStik™ is turned on in the pH mode for the 15th time without recalibration, the ‘CAL’ icon will flash 3 times, indicating that the ExStik™ may require calibration. Some applications may require recalibration of the electrode more frequently than others.

RENEW Display

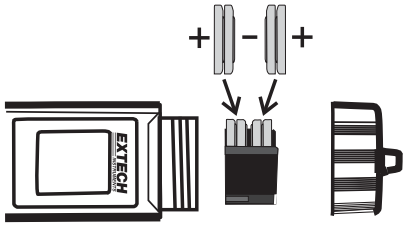
A flashing ‘RENEW’ warning indicates that the probe may be nearing the end of its useful life. If cleaning or recalibration does not cause the RENEW icon to disappear, replace the electrode. The RENEW display appears when the output of the pH electrode fails a diagnostic test.

Considerations

- If the unit appears to be locked (display frozen) it is possible that the Data Hold mode has been inadvertently accessed by pressing the **MODE/HOLD** button. Simply press the **MODE/HOLD** button again or turn the meter off and restart if the display appears frozen.
- If the meter does latch up and no button presses revive it, remove the batteries then reinsert the batteries.

Battery Replacement

1. Twist off the battery compartment cap
2. Replace the four (4) 2032 batteries observing polarity.
3. Replace the battery compartment cap



Specifications

Display	Multifunction LCD with Bargraph
Operating conditions	32 to 122°F (0 to 50°C) / < 80% RH
Range and Accuracy	0.00 to 14.00 / ± 0.01pH typical
Temp. Compensation	Automatic from 32 to 194°F (0 to 90°C)
Temperature Range	23 to 194°F (-5 to 90°C)
Temperature Resolution	0.1° up to 99.9 then 1° thereafter
Temperature Accuracy	± 1.8°F / 1°C
Measurement storage	25 tagged (numbered) readings
Power	Four (4)CR2032 button batteries
Low battery indication	'BAT' appears on the LCD
Auto power off	After 10 minutes of inactivity
Dimensions	35.6x172.7x40.6mm (1.4x6.8x1.6"); 110g (3.85oz)

Warranty

EXTECH INSTRUMENTS CORPORATION warrants this instrument to be free of defects in parts and workmanship for one year from date of shipment (a six month limited warranty applies on sensors and cables). If it should become necessary to return the instrument for service during or beyond the warranty period, contact the Customer Service Department at (781) 890-7440 ext. 210 for authorization or visit our website at www.extech.com (click on 'Contact Extech' and go to 'Service Department' to request an RA number). A Return Authorization (RA) number must be issued before any product is returned to Extech. The sender is responsible for shipping charges, freight, insurance and proper packaging to prevent damage in transit. This warranty does not apply to defects resulting from action of the user such as misuse, improper wiring, operation outside of specification, improper maintenance or repair, or unauthorized modification. Extech specifically disclaims any implied warranties or merchantability or fitness for a specific purpose and will not be liable for any direct, indirect, incidental or consequential damages. Extech's total liability is limited to repair or replacement of the product. The warranty set forth above is inclusive and no other warranty, whether written or oral, is expressed or implied.

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Support line (781) 890-7440

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Repair & Returns: Extension 210; E-mail: repair@extech.com

Product specifications subject to change without notice

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