

# **BASIC PH METER**

840087, 840088 & Kit

Instruction Manual

**SPER  
SCIENTIFIC LTD.**

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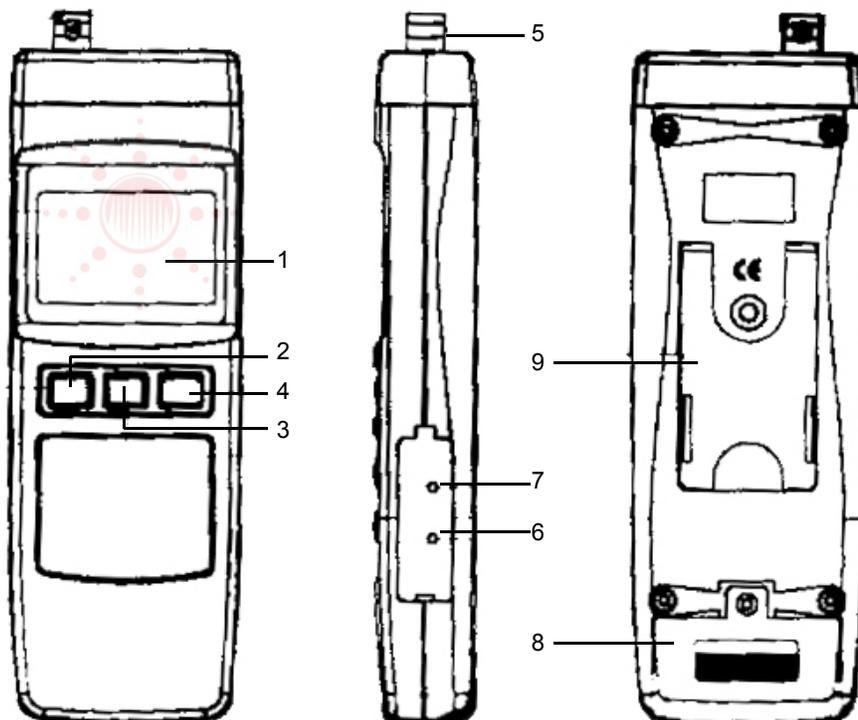
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### I. INTRODUCTION

The Basic pH Meter is a high quality, easy to operate general purpose pH meter. Your meter can be used with any electrode with a BNC type connector. It's light weight, compact yet heavy duty construction makes it ideal for field applications. Comes with a 9V battery, calibration tool, and instructions.

## II. PANEL DESCRIPTION



1. LCD Display	4. HOLD Button	7. Cal. PH7
2. ON Button	5. pH BNC Input Socket	8. Battery Compartment
3. OFF Button	6. Slope PH4/PH10 Adj.	9. Stand

### III. OPERATING INSTRUCTIONS

#### A. PH CALIBRATION PROCEDURES

The meter is factory calibrated to simulate the ideal pH electrode (0 mV at pH 7.00 and 177.4 mV at pH4, based on an ambient temperature of 77°F/25°C ). Follow the two-point calibration procedures to ensure the highest degree of accuracy.

##### Two Point Calibration

1. Connect the pH electrode to the **BNC SOCKET**.
2. Press the **ON** button and place the pH electrode into the pH7 solution.
3. Using a small screw driver, turn the **CAL. PH7** adjustment until the display indicates 7.00.
4. Rinse the electrode in distilled water and shake dry.
5. Next, place the electrode into the pH4 solution.
6. Turn the **SLOPE PH4 PH10** adjustment until the display indicates 4.00.
7. Rinse the electrode again.

##### Single Point Calibration

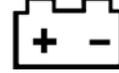
1. Connect the pH electrode to the **BNC SOCKET**.
2. Press the **ON** button and place the pH electrode into the pH7 solution.
3. Using a small screw driver, turn the **CAL. PH7** adjustment until the display indicates 7.00.
4. Rinse the electrode in distilled water.

#### B. PH MEASUREMENT PROCEDURES

1. Connect the pH electrode and press the **ON** button.
2. Calibrate the meter (see above instructions).
3. Place the pH electrode into the solution to be measured.
4. The pH level of the solution is displayed.
5. To freeze the displayed value, press the **HOLD** button. To cancel this function, press the **HOLD** button again.
6. Rinse the electrode in distilled water after each use.
7. Press the **OFF** button.

### C. BATTERY REPLACEMENT

1. Replace the battery when the low battery icon is displayed in the left corner of LCD. In-spec measurements may be made for several hours after the low battery indicator appears.
2. Slide the battery cover away from the instrument, remove the battery and replace with a 9V battery (alkaline or heavy duty type).
3. Close the battery cover.



### D. TROUBLE SHOOTING

If you pH meter malfunctions, follow these steps to pinpoint the problem.

1. Replace the battery when the low battery icon is displayed.
2. Check that the electrode is correctly connected to the BNC socket.
3. Determine if the problem is the pH meter or the electrode by:
  - A. Substituting a known working electrode for the one in use.  
- Or -
  - B. Remove the electrode and turn the unit on. Next, insert a wire or paper clip into the center hole of the BNC electrode socket while touching the other end of the wire to the outer metal ring. If the meter is functioning, the pH reading should be stable and between 6.00 and 8.00.
4. If your meter displays a reading during step 3, replace the electrode. If the meter does not display a reading after following all trouble shooting steps, return it to Sper Scientific under the terms of the warranty.

#### IV. SPECIFICATIONS

Display	LCD, 1/2" (21.5 mm ) digit height
Input Impedance	10 <sup>12</sup> ohm
Measurement Range	0 ~ 14 pH X 0.01 pH
Resolution	0.01 pH
Accuracy	± 0.07pH (pH5 ~ pH9) ± 0.2pH (<pH5, >pH9) Meter only, after calibration and including error for temperature at 64 ~ 82°F (18 ~ 28°C)
Ph Calibration	External pH4 (slope adjustment) and pH7 Cal. adjustment
PH Electrode	Any pH electrode with a BNC connector
Operating Temperature	32 ~ 122°F (0 ~ 50°C )
Operating Humidity	Max. 80% RH
Sampling Time	Approximately 0.4 seconds
Power Supply	006P DC 9V battery
Power Consumption	Approximately 2.0 mA
Weight (meter)	7 1/2 oz (220g)
Size (meter)	7 3/4 x 2 1/2" x 1" (205 x 68 x 30 mm)

#### V. OPTIONAL ACCESSORIES (item number and description)

840090	Water Resistant Instrument Pouch
840092	Bench-Top Tripod
840093	Field Tripod
840016	pH Probe
860008	pH 4 Buffer Solution (3 bottles, 40 mL each)
860009	pH 7 Buffer Solution (3 bottles, 40 mL each)
860010	pH 10 Buffer Solution (3 bottles, 40 mL each)

Sper Scientific warrants this product against defects in materials and workmanship for a period of five (5) years from the date of purchase, and agrees to repair or replace any defective unit without charge. If your model has since been discontinued, an equivalent Sper Scientific product will be substituted if available. This warranty does not cover probes, batteries, or damage resulting from accident, misuse, or abuse of the product. In order to obtain warranty service, simply ship the unit postage prepaid to:

**SPER SCIENTIFIC LTD.**

7720 East Redfield, Suite 7  
Scottsdale, Arizona 85260  
(480) 948-4448  
[www.sperscientific.com](http://www.sperscientific.com)  
[info@sperscientific.com](mailto:info@sperscientific.com)

Please Note: The defective unit must be accompanied by a description of the problem and your return address.

