INTRODUCTION

Congratulations on your purchase of this pen type pH meter. Please read the manual completely before using the meter. Filing and keeping this manual for future reference. Recommend to soak the electrode for at least 30 min. before using, especially if the electrode dries out.

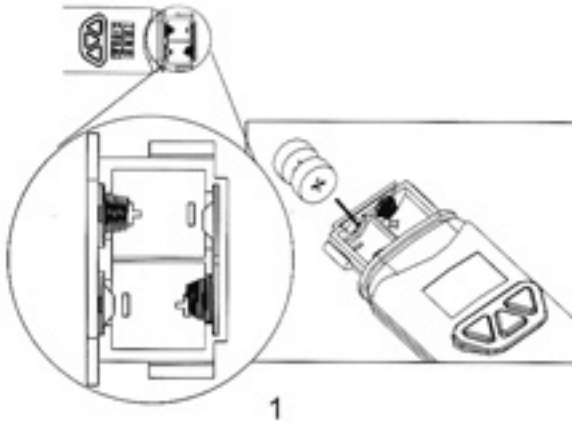
Features:

- **IP67 Waterproof** housing.
- **Dual display** pH with ATC .
- **Data hold** to capture readings.
- **Pen size**, easy to fit in pocket.
- **Low battery** indicator.
- **Disable power off**.
- **C/F** unit switchable .
- No tools needed for calibration.
- Easy to replace with 4pcs **LR44 BAT**.
- Calibration up to **3 points**.
- **One touch** only for auto-calibration.

INSTALL BATTERY

Before power on, be sure to install the batteries.

1. Loose the battery cover two screws. (DON'T discard the small washer!)
2. Insert 4pcs LR44 batteries and make sure polarity is correct.



MATERIAL SUPPLIED

This package contains:

- ✓The meter x 1
- ✓LR44 button battery x 4
- ✓Operation manual
- ✓Color box

CONTROLS AND INDICATORS

LCD display

-The 1st display shows the measured pH reading.
-The 2nd display shows the reading of temp.
-CAL=Calibration mode
-ATC=Auto Temp. Compensation

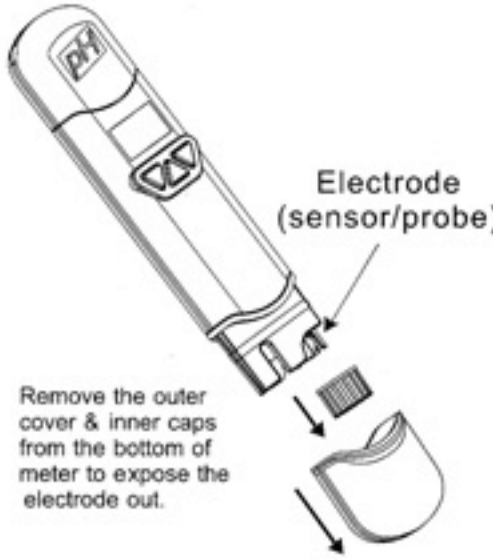
Keypad

HLD = Hold
PWR = Power
CAL = Calibration

OPERATION

1. Remove the outer cover & inner caps from the bottom of meter to expose the electrode out. It is normal if you find white crystals are present on the cap or electrode assembly.

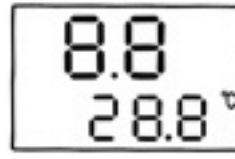
WARNING: Please always make the sponge wet to keep the electrode is in a good storage condition.



2. Dip the electrode into the test solution. Press "PWR" and stir it to get a stable reading.

3. A small dot " • " is flashing while the meter is in measuring mode. The screen not only shows **pH** value but also displays temperature. The temp. unit could be °C or °F.

4. Press "HLD▲" button to freeze current reading. the small dot will not flash.
   Press "HLD▲" again to release the hold mode.



5. Turn off the meter by pressing "PWR" button.
6. Cover with the cap to store the pH pen under the temperature 0~50 °C.

7. To do 3 points calibration before measurement, see page 5.

AUTO POWER OFF (SLEEP FUNCTION)

This meter will shut off automatically in approx. 20 mins after stopping pressing any key. For operating over longer periods of time, you can disable the sleep mode. Before power on, pressing "PWR" and "HLD▲" keys simultaneously until a "**n**" appeared on the screen. "**n**" appear for 1second and then release keys to return to normal mode.
Note: The disable sleep mode will be invalid after every power off.

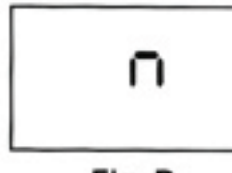


Fig. B

AUTOMATIC TEMPERATURE COMPENSATION (ATC):

capable of measuring
with Automatic Temperature Compensation. "**ATC**" shows under "**CAL**" at the left corner of the screen. To select the temp. unit (°C or °F) preferred, turn off the meter first.

While the meter is off, press " PWR " and " CAL " at the same time until the °C or °F appeares on the LCD. Press "HLD" to select the preferred unit and then press " CAL " to save. "SA" will appear on the LCD for one second and then back to normal (Fig.C&D)

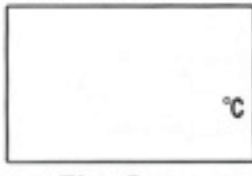


Fig. C

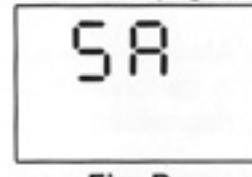


Fig. D

CALIBRATION MODE (CAL)

Calibration is necessary and should be done regularly, recommend everyday if the meter is used often. The unique calibration design of the meter features automatic buffer recognition to avoid errors.

1. Power on the meter
2. Place the electrode into a buffer solution (4,7or10), pH7 should be calibrated first and then 4 or 10 pH for better accuracy
3. Press " CAL " text "CA"

   will appear on the LCD for one second (Fig.E) and then text "CAL" and solution pH value (4,7 or 10) will be displayed on the LCD. (Fig. F&G)

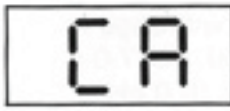


Fig. E

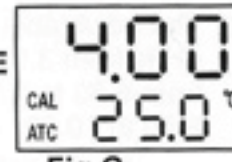
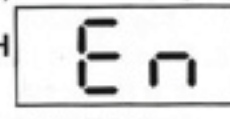


Fig.G

4. If probe or buffer is in error
   If the buffer is incorrectly inserted or the probe is damaged or the probe could not detect buffer in below voltage range, the meter will escape calibration mode automatically 10 seconds after. Text."En" will appear on the LCD in one second and then back to normal status. (Fig H)

Fig. H



PH 4.00 : 97mV..... 250mV
PH 7.00 : - 60mV..... 60mV
PH10.00 : - 250mV..... -97mV

5. If the probe recognizes the buffer
   If the probe successfully recognizes the buffer, the buffer pH value (4 or 7 or 10) will appear on the display in 2 seconds. (Fig.I)

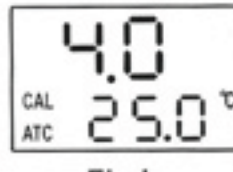


Fig.I

If the calibration buffer is not 4,7,10 but another value, such as 4.01, just press " HLD ▲ " to change the value. (Fig. J)

6. The adjustable cal. point range for 4.0 pH is from 3.50 to 4.50. For 7.0 pH is from 6.50 to 7.50. For 10.0 pH is from 9.50 to 10.50
7. To save the calibration value
   When the electrode reads a stable value and the user stops pressing any keys, the meter will automatically save the value and then escape the calibration mode.
8. Rinse the probe with de-ionized water or a rinse solution (tap water...) after each measurement to last the meter's life.
9. Repeat above steps until the 3 points calibration are finished

REPLACING THE BATTERY

Replace your batteries when:

✓ The readings on the LCD are flashing

✓ The meter could not power on.

Even if the battery was recently replaced, check its voltage level if you get no response from your instrument.

To replace the battery:

1. Remove the screws from the battery cover.
2. Replace the old batteries with four new button cells LR44.

3. Make sure the batteries are in place and the polarity is correct.
4. Put back the battery cover & washers and then screw the cover tightly to make it as water resistant.
5. Please recalibrate the pH meter after battery change.

NOTE:

Remove battery from instruments that you do not plan to use for a month or more. Do not leave battery in instrument.

MAINTENANCE

✓Please always keep the pH glass bulb wet by using the cap to protect and store the electrode.

✓Always rinse the pH electrode and in de-ionized water or rinse solution (tap water.....) before next use.

✓Never touch or rub glass bulb for lasting pH electrode life.

TROUBLESHOOTING

◆ **Power on but no display**
Check the batteries are in place and make good contact and correct polarity. Replace a new battery and try again.

◆ **Slow response**
Clean probe by immersing the electrode in tap water for 10-15 minutes, then rinse thoroughly with distilled water or use a general purpose electrode cleaner.

◆ **- - - .**
Out of pH range, too acidic/or too alkaline. (See Fig. L)

SPECIFICATION	
pH range	0-14

◆ **"H." Or "L."**

Out of temp. range, too cold/or too hot.

SPECIFICATION	8681
Temp. Range	0°C~50°C

◆ pH value fluctuate quickly

It is normal when the electrode was not immersed in the water but exposed in air.

OPERATING CONDITIONS

- ✓ Operating Temp.: 0°~50°C (32~122°F)
- ✓ Operating Humidity: 0~80% RH
- ✓ Calibration buffer solution suggested
  - — Standard USA buffers
  - — Standard NIST buffers
  - — Standard DIN buffers

WARRANTY

The meter is warranted to be free from defects in material and workmanship for a period of one year from the date of purchase. This warranty covers normal operation and does not cover battery , misuse , abuse , alteration , tampering , neglect , improper maintenance , or damage resulting from leaking batteries . Proof of purchase is required for warranty repairs . Warranty is void if the meter has been opened .

SPECIFICATIONS	8681
Accuracy ±	0.2pH
Cal.Point(4.7.10)	●
Auto Power Off	●
pH range	0-14
Temp. Accuracy	± 1°C
Temp. Resolution	0.5°C/°F
Resolution	0.1pH
Hold Data	●
Unit C/F switchable	●
Range (minimum) pH	0.0
Range (maximum) pH	14.0
(ATC)	●
Self-Calibration	●
Waterproof (IP67)	●
Size	150mm(L)x36mm(W)x25mm(T)

SPECIFICATION