



PH-100

# PH Meter

## User manual

### ■ Overview

The portable and pen type design makes this PH-100 pH meter fairly easy to carry. The most distinct feature is that the PH value and temperature value can be read at the same time during the operation. It is mainly used to measure water quality in aquaculture, environmental protection, printing and dyeing, electroplating, and beverage industry, and also it is applied by some scientific research units to measure water quality and pH value.

### ■ Technical Spec:

Model	PH-100
Measuring Range	PH: 0.01-14.00PH Temperature: 0-50°C / 32-122°F
Resolution	PH: 0.1-14.0PH Temperature: 0-50°C
Accuracy	PH: ±0.02PH Temperature: 1°C/2°F
PH Calibration	PH: 25°C Three points Calibration: 4.00 6.86 9.18
Operation Temperature	0-50°C (32-122°F)
Power	1.5V(LR44)*4PCS
Size	Φ 40*185mm
Weight	88g

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### ■ Operation Guide

- 1 Remove the electrode protective cap beneath the PH meter before using. Put the PH compound electrode into pure water or distilled water and stir until it is completely rinsed, and then dry it. Press On/Off switch, it is turned on; immerse the PH compound electrode in the test solution; slightly shake it and then place it still; wait until the PH value keeps stable, then the PH value of the test solution can be read.
2. The PH meter's factory default temperature unit is "°C". If you want to convert temperature unit, please operate according to the following methods. In shutdown state of the PH meter, hold CAL, and press ON/OFF switch to turn it on until there displays "°C" or "°F". Release CAL and press CAL again, choose "°F" or "°C". Then press HOLD to save it. At this time, the screen will show "SA", indicating that the chosen temperature has been saved and the instrument entered into the normal test mode.
3. Calibration: The calibration is called "3-point-calibration", which means you should calibrate the meter with 6.86, 4.00 and 9.18 solution separately, but with the same procedure.
  - a) Prepare 6.86 PH standard buffer solution, press ON/OFF switch to turn it on. Insert the PH

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compound electrode into the configured standard buffer solution. Shake it appropriately and place it still. After the PH value being stable, press the CAL about 3 seconds until the CAL symbol displays. Then release the CAL, PH meter will automatically identify the value of the standard buffer solution under the current temperature, showing the current measured value about one second, and then displaying the value of standard buffer solution under the current temperature. After 2 seconds, there appears "SA", which means it is memorizing the calibration results. Then it shows the "END", indicating that the calibration process has been finished. After one second, it returns to normal measurement. When pressing CAL, and after one second, there displays the "END", which suggests that the standard buffer solution is invalid or the electrode is aged. Press any key to exit and return to the normal measurement state. So please make sure the standard buffer solution or the electrode is normal.

- b) Clean the electrode with distilled water and then dry it, do the above procedures with PH4.00 solution, then the second calibration point is complete.
- c) Clean the electrode with distilled water and then dry it, do the above procedures with PH 9.18

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solution, then the third calibration point is complete. When PH meter calibrating, the "END" doesn't appear, please DO NOT take the PH meter out of the standard buffer solution. When PH meter calibrating, please use standard buffer solution and correct methods. Any incorrect calibration will increase the measurement errors. Under the non-standard calibration, please DO NOT press CAL; otherwise, it will cause wrong calibration. And the instrument will not function properly or the measurement error will badly exceed the standard.

4. Press the ON/OFF switch to turn it on. There displays "MEAS" on the normal working screen, which indicates that the instrument is in measuring state. Press HOLD to lock the current value on the screen and there appears "MEAS" on the screen. Then press HOLD to relieve the lock mode.
5. The instrument has a function to memorize the current measurement result. When completing the measurement, press HOLD and until there appears "HOLD" on the screen; then turn it off. When the instrument is turned on next time, it will automatically display the last measurement value and press HOLD to clear it.
6. Outrange show. When the PH value is lower than "0" or "14", the PH display area will show "L—" or

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"H—". When the temperature is too low or too high, the temperature display area will show "L" or "H".

7. Low voltage tips. When the battery symbol appears, indicating that battery voltage is insufficient, please install the new battery as soon as possible. And DO NOT mix the new and old batteries.

### ■ Precautions

- 1 Please try to choose the standard buffer solution that is close to the PH value of the test solution so that we can achieve more accurate measurement results.
2. The times of calibration depend on the test solution, the electrode performance and the measurement accuracy. When conducting high accuracy measurement, calibration should be carried out in a timely manner. Under the blow two circumstances, there need a new calibration:
  - ① When doing general accuracy measurement, after a calibration, the instrument is continuously used for one week or a longer time;
  - ② Before using when you insert the electrode into standard buffer solution that is close to the PH

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value of the test solution, you find that the error is beyond your accuracy requirements.

In the following cases, the instrument must be recalibrated.

- A Long-term unused electrode or new electrode.
  - B After measuring concentrated acid or strong alkali.
  - C After measuring the solution containing fluoride and the concentrated organic.
3. Please DO NOT insert the PH meter too deeply into the solution; as long as the glass electrode is fully immersed in the solution, it is enough. Before using, please check and ensure the PH electrode fixing ring is not loose. If it is loose, the solution may enter into the instrument and cause some failure.
  4. The glass ball of PH compound sensitive electrode must be in humid conditions in order to keep active and conduct the normal test. If the PH electrode is kept dry for a long time, there may appear abnormal situations, like slow response, poor accuracy, etc. Therefore, at the bottom of the front end of the electrode cap of the PH-100 waterproof pen type PH meter, there is a water sponge. Thus, the users must keep the sponge moist all the time, and when the sponge is dry, the user can add right amount of PH4.00 standard buffer solution (Please mind DO NOT let the solution flow out), and

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tightly close electrode protective cap to keep the PH electrode active under moist condition.

5. If the long-time unused PH compound electrode has been dry, insert the instrument into the 3.3 MOL/L KCL solutions for several hours or buy special electrode soaking solution.
6. The sensitive glass ball on the PH electrode front cannot be contacted with hard objects. Any breakage or snag may disable the electrode. Before measurement and after measurement, the electrode must be cleaned with pure water to ensure the measurement accuracy. After the measurement of the viscosity sample, the electrode needs to be cleaned with pure water for several times to remove the sample residual on the glass membrane; also then appropriate solvent can be used to clean the sample residual first and then rinse the solvent with purer water.

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