

PH METER

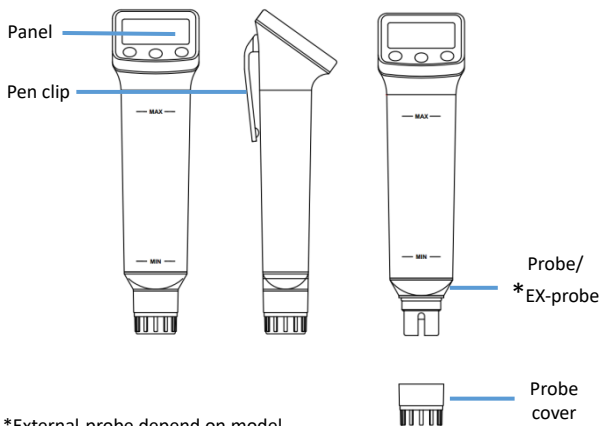
USER MANUAL

INTRODUCTION

The device is a general-purpose hand-held pH meter offering a 3-point calibration and automatic temperature compensation (ATC). The custom liquid crystal display simultaneously shows temperature compensated pH readings and the liquid temperature. The instrument is easy to carry like a pen, and with a pen clip. A backlight function can help you work at dark place. AAA type battery can extend the battery life up to 500hours. An automatic switch off facility helps to conserve battery life. *Bluetooth connection can help you log and analyze the measure data.

* Only at B model

STRUCTURE



*External-probe depend on model

PANEL



	Symbol	Description
Display		Low battery indication
		Hold the display reading
	ATC	Auto temperature compensation
	CAL	Calibrate mode
		Bluetooth function/Disable auto power off
Left Button		Backlight function /Power on Decrease calibration temperature when calibrate mode
		Keep press 3sec to Power off
Middle Button		Change the temperature unit Save data when calibrate mode

	CAL	Keep press 3sec to enter calibrate mode Keep press 3sec to escape calibrate mode
Right Button		Hold the display reading
		Change calibrate point when calibrate mode Increase calibration temperature when calibrate mode
		Keep press 3sec to action Bluetooth function/disable auto power off function

OPERATION

Before using:

Anti-clockwise screw out the probe cover.

*If External Probe model, please connect the external probe.

*First using, please make a calibration at first.

After using:

Use distilled water clean the probe carefully, fill 3mol/L KCL solution on probe cover, and clockwise screw in the probe. Make sure probe immerse on solution.

Power on:

Press the left button once, turn on the device.

After the power on, device at measurement mode, the main reading will display the measure PH reading (ATC), and the second display temperature value.

Device auto Power off after 15minutes, if without any button operation.

*External-probe ATC is based on air environment temperature.

Power off:

Keep press the left button 3sec to turn off device.

Backlight:

Press the left button once, turn on the backlight function. Press again to cancel the backlight function.

Unit selection:

At measurement mode, press the middle button once to switch the temperature measurement unit. Fahrenheit degrees or Celsius degrees can be selected.

Display hold:

At measurement mode, press the right button once to activate the display hold function, and then press again to cancel this function.

Bluetooth function/ disable auto power off function:

At measurement mode, keep pressing the left button 3 seconds to activate Bluetooth function. And disable auto power off function. Keep Press 3 seconds again to cancel this function.

Bluetooth connection should be work with the “DATA COLLECTION” APP or PC software.

*Bluetooth function only support with B model

CALIBRATION

Enter calibration mode

At measurement mode, Keep presses the middle button 3 seconds to enter the calibration mode.

The main display is the current calibration point as 4.01,6.86,9.18.

The second display is showing the current measure reading. CAL symbol is

flashing.

Make the buffer solution

Solid material for 4.01ph, 6.86ph, 9.18ph buffer solution is provided in a set of sachets. Glass jars or beakers are recommended as the solution containers. Make 3 buffer solution for calibration.

1. Put the buffer material (in the sachet) in a jar (the volume should be no less than 250ml).
2. Fill the jar with 250ml distill water.
3. Place a glass stick in the solution, swirling it until the white powder dissolved.
4. Store the buffer solution in the 25degC environment. Attach a label on it for calibration use.

Calibration step:

Step1: Place the probe in the 4.01ph buffer solution. After about 2 minutes of stabilization, Press the Middle button to save the data, then press the right button go to the next calibration point. (If you do not need to calibrate the current point, press the right button go to next step directly)

Step2: Make 6.86ph calibration as step 1.

Step3: Make 9.18ph calibration as step 1.

Keep press middle button 3sec to escape calibration mode. Or turn off device.

Advanced setting: (Temperature calibration/ Calibration point preset/ ATC parameter preset)

If you are using difference calibration solution, then you can present your solution PH for device calibration point. And if you have temperature adjust or temperature compensation parameter adjust. Please use following process:

Enter Advance setting mode: Keep press middle button when power off device, press once left button to turn on device, after 2sec release middle button.

Step1: Make temperature calibration. Temperature reading and ATC symbol is show at second display area, with flashing CAL symbol. Press left button to decrease/Press right button to increase the current temperature reading. Press middle button once to save the data and go to next step.

Step2: First calibration point preset. First calibration should show at main display area, default 4.01Ph. Press left button to decrease/Press right button to increase the current reading. Adjust by 1.00~5.99Ph. Press middle button once to save the data and go to next step.

Step3: Second calibration point preset. Second calibration should show at main display area, default 6.86Ph. Press left button to decrease/Press right button to increase the current reading. Adjust by 6.00~7.99Ph. Press middle button once to save the data and go to next step.

Step4: Third calibration point preset. Third calibration should show at main display area, default 9.18Ph. Press left button to decrease/Press right button to increase the current reading. Adjust by 8.00~13.00Ph. Press middle button once to save the data and go to next step.

Step5: Auto temperature compensation parameter preset. ATC parameter should show at main display area, like 033, second display area display 0.0-, and ATC symbol indication. default 0.0033/°C Δ pH. Press left button to decrease/Press right button to increase the current reading. Adjust by 0.0000~0.0999 (Cancel the ATC function when set to 0.0000). Press middle button once to save the data and turn off device.

SPECIFICATION

PH Range: 0 to 14.00pH

Resolution/Accuracy: 0.01pH / ± 0.1 pH

Temperature Range: 0 to 70°C / 32 to 158°F (ATC auto temperature compensation)

ATC parameter adjustable: 0.0000~0.0999/°C Δ pH (default 0.0033)

Resolution: 0.1°C / 0.1°F

Accuracy: $\pm 0.5^\circ\text{C}/1^\circ\text{F}$

Calibration point: 3 points

Calibration points adjustable:

First point 1.00~5.99pH, default 4.01pH

Second point 6.00~7.99pH, default 6.86pH

Third point 8.00~13.00pH, default 9.18pH

Power: AAA battery 2pcs

External Probe: BNC connector (DEPEND NMODEL)

Battery Life: 500 hours typical (@ 25°C with alkaline AAA battery)

Ingress Protection: IP65

Size: 153(l)x40(w)x38(d)mm

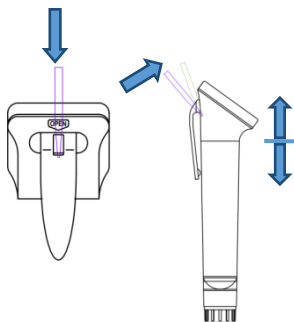
Weight: 100g

MAINTENANCE

Replace batteries:

if a low battery symbol indication on LCD, please replace the battery with 2pcs AAA.

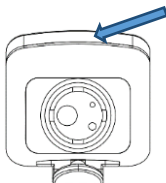
- ① Use tools (screwdriver) insert to the Pen clip hole which mark an OPEN sign.
- ② Turn tools to up direction.
- ③ Separate the top casing and down casing.
- ④ Find the battery box, and replace to new batteries.
- ⑤ Assemble back the separate parts.



Probe maintenance:

Use distilled water clean the probe carefully, fill 3mol/L KCL solution on probe cover, and clockwise screw in the probe. Make sure probe immerse on solution.

If device probe over dry too much, please try to soaking at 3mol KCL solution for 48hour. Or pull out the filter element as follow position, fill full 3mol/L KCL solution in the hole, put back the filter element, then wait for 48hour then try to calibrate it again.



Probe Clean:

CLEANING GLASS ELECTRODES

For general purpose use, combination electrodes can be cleaned with a

mild detergent solution or a commercial glass cleaning solution (provided these are not strongly acidic). The electrode surface should be wiped with a clean cloth soaked in the cleaning agent, and/or allow the membrane to stand in the solution until clean. Rinse and repeat as necessary.

TABLE FOR CLEANING OF GLASS ELECTRODES

NOTE: The electrode supplied with the instrument should not be cleaned with aggressive solvents.

Deposit	Cleaning agents
General deposits	Mild detergent solution
Inorganic coatings	Commercial glass cleaning solution (not strongly acidic)
Metal compounds	Acid solution, not stronger than 1M
Oil/Grease	Complexing agent (EDTA) or suitable solvent
Resins/Lignins	Acetone, alcohol or detergent (not strongly alkaline)
Proteins (blood, etc)	Enzyme solutions e.g., Pepsin in 0.1M HCl
Stubborn deposits	Weak hydrogen peroxide solution, Sodium Hypochlorite solution or household bleach

Electrodes which have been allowed to dry out, (often indicated by a hard, dry deposit of KCl crystals on the electrode body), should be rehabilitated by soaking overnight in warm deionized water.

Surface Clean:

Alcohol can be used to wipe the machine body (except for probe and panel

areas)

NOTICE

- *Please always keep the pH glass bulb capped for protecting when storing.
- *Always rinse the pH electrode in KCL solution before use, or long-term storage.
- *Never touch or rub glass bulb for it may reduce the life of the electrode.
- *If the electrode slope is off or the electrode response has become sluggish or inaccurate, change the fill solution. If that does not improve the response then the pH sensing glass and the junction have probably become coated with some of the samples being tested.