

Pen Meter pH & ORP Users Manual

CT-6821

⚠ Caution

- Please read the manual carefully before using the meter.
- The glass electrode at the bottom of the pen is fragile, please use it carefully after taking off the protection cap. Any damage may cause the invalid of the electrode.
- The duration period of the glass electrode is one year from the date of purchase whether you use it or not, please change the electrode in time.
- The electrode can not be used under the dry condition, always soak the electrode into the distilled water or purified water for 5 – 30 minutes to activate before use.

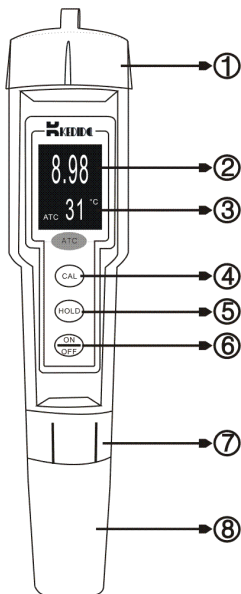


Figure	Part Name
1	Battery Storage Section
2	pH& ORP Display
3	Temperature Display
4	CAL Calibration Key
5	HOLD key
6	Power ON/OFF Key
7	Electrode fixed collar
8	Electrode Protection Cap

FEATURES

* 0.0 to 14.0 pH/0 to ±500mV	* LCD display with pH and temp. OR ORP and temp.
* Pen type digital pH& ORP meter, all in one, Electrode is included, easy for general purpose application	* Data hold function for freezing the desired value
* Water proof and protection	* Auto power off in 5 minutes
* pH 4.01, pH 6.86 and pH 9.18 standard solution are standard accessories	* Compact size, light weight.
* Easy to change the pH electrode	* Power supply by DC 1.5 V battery (LR44, BAT) x 4 pcs
* Build in temperature sensor, ATC (auto temperature compensation)	* °C/ °F Interchangeable
* Three point calibration for pH 4.0, pH 6.8 and pH 9.1	* Already calibrated, can be used directly

SPECIFICATIONS

Display	LCD, size : 20 mm x 27 mm. Consumption			
Measurement Range	pH	0.0 to 14.0 pH	ORP	±500mV
Resolution	pH	0.1 pH	ORP	±2mV
Accuracy	pH	± 0.1 pH * After calibration	ORP	±5mV
pH Calibration	pH4.0,pH6.8, pH9.1, Three Point Calibration		ORP Calibration	It already be calibrated before leaving the factory ; Using it directly,please.
Temp. Display	0.1°C/1°F			
Temp. Accuracy	2°C/5°F			
Working Temp. Range	0 ~ 50°C(32 ~ 122°F)			
ATC	0 ~ 50°C(32 ~ 122°F)			
Dimension	188 x38 mm * Meter with the electrode			
Weight	90 g (included electrode)			

OPERATING INSTRUCTION

Pull out the cap before using, Do not Screw it!

*Power ON/OFF Feature

1. Press ON/OFF key to turn the Meter on and off.
2. The Meter will shut off automatically if there is no operation in 5 minutes.

***Self- Checking Feature** (Executing the function automatically after the meter is power on each time)

1. Press the ON/OFF key to turn on the meter, Self- Checking program will be auto-started with Full screen display.
2. the type of the meter will be displayed: 6821, then , the meter is ready for use.
3. the default mode is pH mode after the date of the manufacture.
4. The test mode will be same with the previous use.

***pH Mode**

1. Press the ON/OFF key for 3 seconds, until the “pH” display on the screen.
2. Then press CAL to confirm, and the meter is ready to test in pH mode.

*** ORP Mode**

1. Press the ON/OFF key for 3 seconds, until the “pH” display on the screen.
2. Press HOLD key to select “ORP” on the screen.
3. Then press CAL to confirm, and the meter is ready to test in ORP mode.

*** Backlight Mode**

1. Press the ON/OFF key for 3 seconds, until the “pH” display on the screen.
2. Press HOLD key to select “LED” on the screen.
3. Then press CAL to confirm the backlight mode.
4. Power off the meter to close the backlight mode.

*** Hold Feature**

Press **HOLD** to freeze the current reading, and 'HOLD' will be appeared on the LCD. Press **HOLD** again to release the hold mode.

***Restore factory defaults**

1. If the meter is out of order, Press the HOLD key for 3 seconds, until the “CLR” display on the screen, release the HOLD key and the factory setting is ready.
2. The meter needs to recalibrate for pH measurement after the factory setting, but can be used directly for ORP measurement.

*** Automatic temperature compensation (ATC)**

The product is capable of measuring with automatic temperature compensation when “ATC” displays on the screen.

***°C/°F Interchangeable**

The default mode is °C, press CAL key to switch to °F.

* Calibration

● pH calibration

Prepare for 4 measuring glasses to calibration, 1 measuring glass for water and 3 measuring glasses for pH buffer solution(pH4.0, pH6.8, pH9.1).

Please be aware of the order of the pH buffer solutions:

First: pH6.8, second: pH4.0, third: pH9.1

Take the pH 6.8 calibration for example:

STEPS	OPRATIONS
1	Insert the electrode into the distilled water or purified water for 10– 30 minutes to activate before press ON/OFF key to turn the meter on.
2	Place the electrode into the measuring glass of water to clean, and wipe it up by tissue
3	Place the electrode into the pH6.8 buffer solution, The pH value will be updated until a stable reading is reached(The data maybe not accurate if the electrode is not be activated)
4	press CAL key for 3 seconds until the text 'CAL' appear on the display, and release the key
5	Text 'SA' will showing in the LCD denote that the current calibration result is saved
6	The text 'END' will be displayed at the end. The meter is ready for pH measurement

*Overrage Reminder

There will be “1- - .-” on the display if the pH value is under 0 or over 14;

There will be “1- - .-” on the display if the ORP value is under -500mV or over +500mV;

There will be 'L' or 'H' on the temp. display area if the temperature is under 0°C or over 50°C.

*Low Voltage Reminder

The battery sign will be appeared on the display when battery replacement is needed.

MAINTENANCE

Keep the glass electrode clean, and cover with the protection cap when not use. Be aware of the damage of the electrode when use it. Products should be kept and stored in a cool, dry place that away from direct sunlight.

WARRANTY

The meter is warranted to be free for one year from the date of purchase. (Electrode and battery are not included)

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.

NOTE

1. Please operate the meter Under the guidance of professionals.
2. Soak the electrode into the distilled water or purified water for 5 – 30 minutes to activate before use.
3. Please use the standard buffer solutions for pH calibration, and operate it by the calibration steps shown above.
DO NOT press CAL key in NON calibration mode, it may cause the calibration Error.
4. The pH buffer powder should be fully dissolved in water (250ml).
5. In calibration mode, the electrode should be submerged in the buffer solution. Especially pay attention to the Electrode fixed collar if it is loosen when calibration, it may cause the buffer solution enter the inside of the meter.

How to make pH buffer solution

There are 3 pH buffer powder supplied with the meter when you buy them, each powder should be Fully dissolved in water(250ml). DO NOT use the metal containers.

Take the formulation of pH 6.8 buffer solution for example:

1. Put the pH 6.86 buffer material (in the green 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 cool and dry place. Attach a label on it for further use.
5. For the further calibration, Ensure that there is a constant supply of fresh buffer solution in contact with the probe. Discard the solution after use.

The way of the formulation of other buffer is same like that . Please mark it clear and prepare to use it for the future.

The use of standard buffer:

The buffer solutions (250ml) can be used several times by divided into portions which should be kept in a cool and dry place(20°C-25°C). Never reuse the used portion. The electrode should be fully covered by buffer solution when calibration.