

AE8601 酸碱度仪

中英文使用说明书



PH&ORP Meter

引言

- ▶ 感谢您购买本公司生产的PH/ORP检测仪
- ▶ 本手册仅提供本产品的相关测量功能的使用方法以及使用方面的注意事项,要发挥本产品的最佳使用效能,使用前请详阅本手册,并妥善保管本手册以便不时之需。
- ▶ 当您收到此产品时请检查仪器是否完好,配件是否齐全,如有缺失或是其它任何问题请您尽快与供应商联系。

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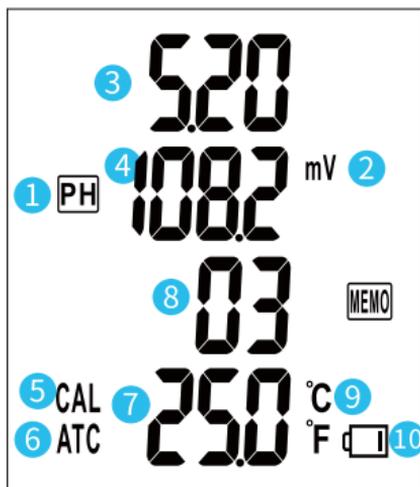
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产品参数

型号: AE8601

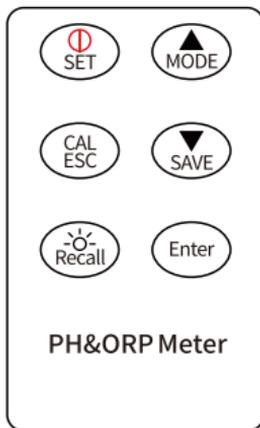
PH测量范围	0.00~14.00pH
PH分辨率	0.01pH
PH精度	±0.02pH
ORP测量范围	-1999 to+1999mV
ORP分辨率	0.1 mV(-199.9 to +199.9mV),1 mV(其他量程)
ORP精度	±0.2 mV(-199.9 to +199.9mV),±2 mV(其他量程)
温度测量范围	-5.0~65.0°C
温度分辨率	0.1°C
温度精度	±0.5°C
工作环境	0~50°C;0~80%RH
存储环境	0~60°C;0~90%RH
PH校正	4.00/6.86 / 9.18 pH三点校正
自动温度补偿	有(仅PH)
记录数据	手动记录99笔
自动关机	无操作一小时后
LCD尺寸	41*50mm
背光	支持
探头线长	约1.15米(加探头)
供电	AAA*4pcs
产品尺寸	65*28*165mm
产品标配	主机、PH探头、温度探头、校正液*3、说明书 合格证、AAA电池*4、手提箱、(可选购ORP探头)

屏幕面板说明



- | | |
|----------------|---------------------------|
| 1. “PH”测量模式 | 2. “mV”ORP模式 |
| 3. PH当前测量数值 | 4. ORP当前测量数值 |
| 5. “CAL”表示校正模式 | 6. “ATC”表示自动温度补偿模式 |
| 7. 仪表当前温度 | 8. 仪表存储的数据笔数 |
| 9. 温度单位 | 10. 低电量提示, 请更换电池以保证测量的准确性 |

按键介绍



⏻/SET键:短按开关机/测量模式长按进入设定模式。

CAL/ESC键:测量模式下长按进入校正模式/设定模式下短按退出设定模式。

☀️/Recall键:短按开启或关闭背光灯/长按查看已保存的数据按上下键可以逐条查看记录数据,按ESC键可退出记录查看模式。

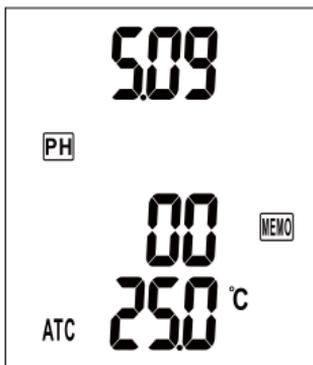
▲/MODE键:增加数值/切换模式。

▼/SAVE键:减少数值/切换模式/测量模式下短按可手动保存数据(最高99笔,存满后需删除原有数据才能继续存储)。

Enter键:确认键。

PH测量步骤

1.接好PH探头取下保湿瓶,按“ Ⓢ /SET”开机,按“ \blacktriangle /MODE”键切换到酸碱度测量模式如下图。



2.将pH电极测棒放置到待测溶液,轻轻前后左右摆动pH电极,1分钟左右pH电极测棒温度和待测液体温度达到平衡,即可读数记录数据。

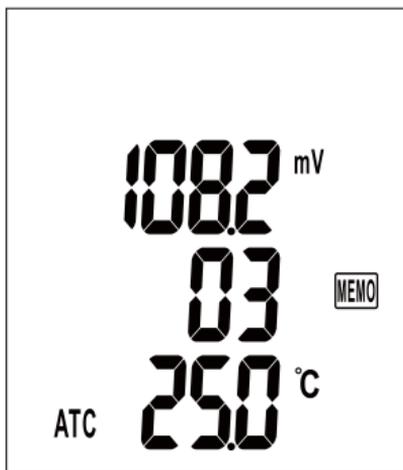
3.开机后,按“ ☼ /Recall”键则点亮背光,再按“ ☼ /Recall”键则关掉背光,如果1小时没有任何按键操作就自动关机。要取消自动关机,则关机后同时长按“ Ⓢ /SET+ \blacktriangle /MODE”键开机,出现“n”字样即取消自动关机,如仪器关机再开则自动恢复自动关机需重新设置。

4.测量后,一定要用清水(如自来水)清洗pH电极可以用软毛刷刷洗PH电极头,但要小心玻璃球。

5.清洗后要装回旋紧保湿瓶(确保有足够保湿液,不用时让探头保持湿润,保湿液为氯化钾溶液)。

ORP测量步骤

1.接好ORP探头取下保湿瓶,按“ D /SET”开机,按“ \blacktriangle /MODE”键切换到ORP测量模式如下图。



2.将ORP电极放置到待测溶液,轻轻前后左右摆动ORP电极,1分钟左右,待数值稳定即可读数记录数据。

3.测量后,一定要用清水(如自来水)清洗ORP测棒。

4.清洗后要套回旋紧保湿瓶(确保有足够保湿液,保湿液为氯化钾)。

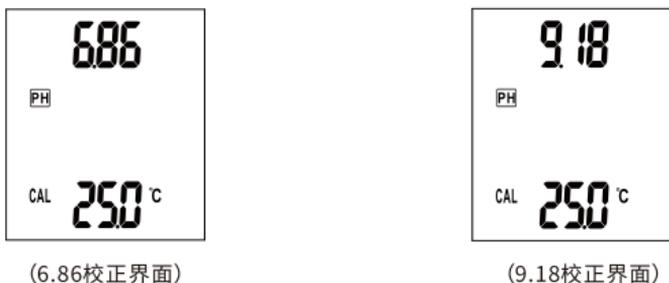
5.ORP电极需要经过砂纸打磨铂金片或铂金环,铂金片或铂金环要保持光亮如新,否则会影响测量精度!

校正步骤

- 1.一般半个月校正一次,先用**软毛牙刷洗刷玻璃球区域!**
- 2.将pH电极在一杯清水中漂洗1分钟,甩干并用纸巾擦干pH电极表面,底部轻轻甩干。



- 3.pH电极测棒放入4.00pH缓冲溶液中(缓冲溶液可以放置在玻璃杯中,避免翻倒),轻轻搅动1分钟,按“CAL/ESC”键大于1秒进入校正模式,屏幕数值与标识闪烁,按“确认”键完成校正,如果此时的测量值与缓冲溶液相差小于0.02pH则校正正确,否则再按“CAL/ESC”键重新校正直到校正正确。



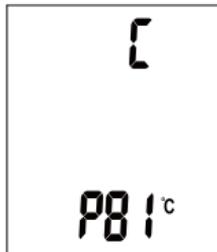
- 4.取出pH电极测棒4.00pH缓冲溶液放好,用清水冲洗pH电极测棒,甩干并用纸巾擦干pH电极测棒表面。

- 5.按照2、3、4的步骤完成6.86pH和9.18pH校正。(校正液不可混入其他液体,常温避光保存)。

4.P80切换温度单位:在设定模式,按“▲/MODE”或“▼/SAVE”键切换到P80,按“Enter”键进入P81,再按“▲/MODE”或“▼/SAVE”键切换°C/°F单位,按“Enter”键即单位切换完成。

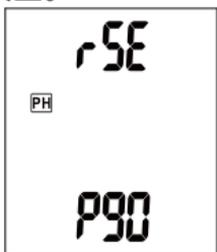


(P80)

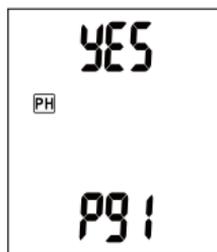


(P81)

5.P90清除校正数据:在设定模式,按“▲/MODE”或“▼/SAVE”键切换到P90,按“Enter”键进入P91,按“▲/MODE”或“▼/SAVE”键,出现“YES”字样,按“Enter”键即清除校正数据,清除校正数据后需要重新校正。



(P90)



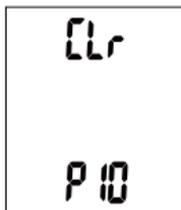
(P91)

故障代码

- 1) E02:测量值超出下限;
- 2) E03:测量值超出上限;
- 3) E04:测量温度错误;
- 4) E13:校正出错,需要重新校正
或者pH电极已老化损坏,需要更换新电极并重新校正;
- 5) E31:硬件问题,需要维修;

设定

1.P10删除保存数据:测量模式下,长按“/SET”键进入设定模式P10,按“Enter”键到P11,按“▲/MODE”或“▼/SAVE”键出现“YES”字样,按“Enter”键删除全部保存数据并回到P10。

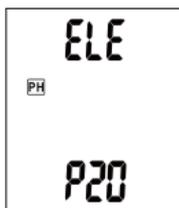


(P10)



(P11)

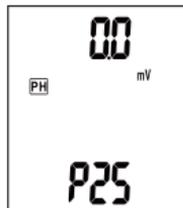
2.P20酸碱度电极参数:在设定模式,按“▲/MODE”或“▼/SAVE”键切换到P20,按“Enter”键切换到P21、P22、P23、P24查看斜率, P25查看offset偏移电压。



(P20)



(P21~24)



(P25)

3.P30设定手动补偿温度:在设定模式,按“▲/MODE”或“▼/SAVE”键切换到P30,按“Enter”键进入P31,再按“▲/MODE”或“▼/SAVE”键调整手动补偿温度数值,按“Enter”键即完成手动补偿温度设定。



(P30)



(P31)

酸碱度计使用常见问题

1. 错误操作：**测量完成不套回保湿瓶。**

测量完成后要清洗干净探头套回并旋紧保湿瓶，(确保有足够保湿液)。

2. 长时间不使用，正确做法：

- 1) 套好并旋紧保湿瓶(确保有半瓶保湿液)
- 2) 取出电池，否则容易漏液造成仪表损坏!
- 3) 确保储存在零度以上环境，**要防止结冰!**

警告：保湿液、缓冲溶液等不能食用!

要放置在儿童接触不到的地方!

校正液各温度范围数值参考

ph4.00

5	10	15	20	25	30	35	40	45	50
4.00	4.00	4.00	4.00	4.00	4.01	4.02	4.03	4.04	4.06

ph6.86

5	10	15	20	25	30	35	40	45	50
6.95	6.92	6.90	6.88	6.86	6.85	6.84	6.84	6.83	6.83

ph9.18

5	10	15	20	25	30	35	40	45	50
9.39	9.33	9.28	9.23	9.18	9.14	9.10	9.07	9.04	9.02

特殊声明

- 1.旧电池必须按照地方法律和规则来处理。
- 2.本公司保留对本产品设计规格及说明书内容的更新、修改权利,若有变更恕不另行通知!

保修事项

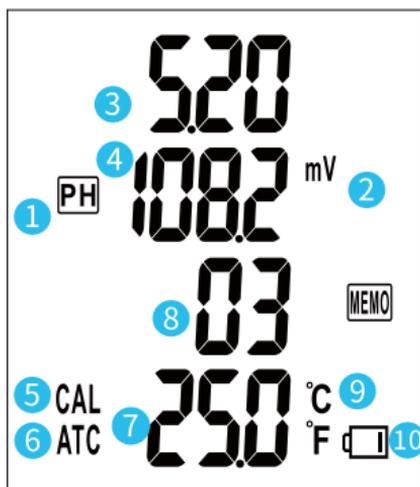
- 1.本产品自购买日起,在正常使用未经拆装,维修或第三方因素的损坏下一年内享受保修服务,在任何正常情况下均提供维修。
- 2.上述保修条款只对主机有效,探头配件等耗材不在保修范围内。

Specification

Model: AE8601

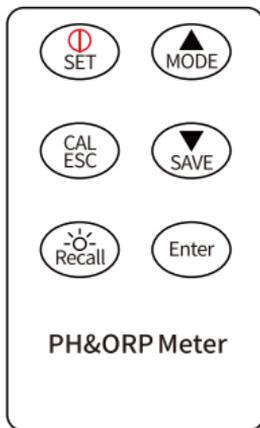
PH measurement range	0.00~14.00pH
PH resolution	0.01pH
PH accuracy	±0.02pH
ORP measurement range	-1999 to+1999mV
ORP resolution	0.1 mV(-199.9 to +199.9mV),1 mV(other ranges)
ORP accuracy	±0.2 mV(-199.9 to +199.9mV),±2 mV(other ranges)
Temperature measurement range	-5.0~65.0°C
Temperature resolution	0.1°C
Temperature accuracy	±0.5°C
Working environment	0~50°C;0~80%RH
Storage environment	0~60°C;0~90%RH
PH Calibration	4.00/6.86 / 9.18 pH three-point calibration
Automatic temperature compensation (ATC)	Yes (for PH measurement only)
Memory record	Up to 99 records
Auto power off	After one hour of inactivity
LCD size	41*50mm
Backlight	Yes
Probe cable length	About 1.15 meters (with probe)
Power supply	AAA*4pcs
Product dimension	65*28*165mm
Material supplied	Meter, PH probe, Temp. probe, pH Buffer*3, Manual, Certificate of Quality, AAA battery *4, Suitcase, (optional ORP probe)

LCD Display



1. "PH" pH indication
2. "mV" ORP indication
3. PH Measurement value
4. ORP Measurement value
5. "CAL" means calibration
6. "ATC" means automatic temperature compensation
7. Temperature of meter
8. Total number of records
9. Temperature unit
10. Low battery warning, please replace the battery to ensure the accuracy of the measurement.

Keypad



⏻/SET key: Short press to turn on/off; press > 1s in measurement mode to enter setting mode.

CAL/ESC key: press > 1s in measurement mode to enter calibration mode; Short press in setting mode to exit setting mode.

☀/Recall key: Short press to turn on or off the backlight; press > 1s to recall the saved data; Press the up and down keys to select the record data one by one; and press the ESC key to exit the record recall mode.

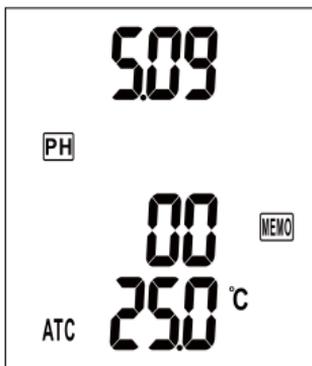
▲/MODE key: Increase the setting value; Switch measuring modes.

▼/SAVE key: Decrease the setting value; Short press in measurement mode to save data (Maximum of 99 records, New data can not be saved if the memory is full. it is needed to clear up existing 99 memories for new data).

Enter key: Key to confirm setting and calibration.

PH Measurement Steps

1. Be sure to remove the pH electrode soaker bottle from the electrode before measurement, Plug the pH and Temp. probe into the port on the top of the meter, press "⊕/SET" to turn on the meter, the press "▲/MODE" key to switch to the pH measurement mode as shown in the figure below.



2. Dip the pH electrode and the Temp. probe into the sample, stir the pH electrode gently back and forth, The reading will be stable after about 1 minute, then read and record the data.

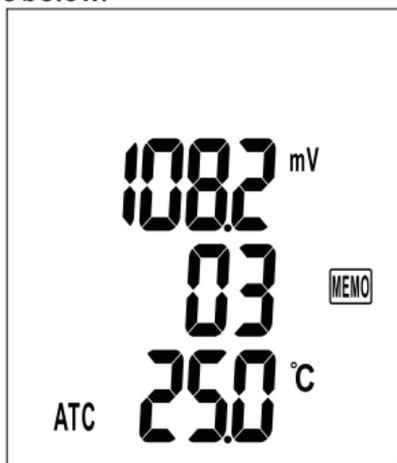
3. After powered on, press the "☺/Recall" key will turn on the backlight, and press the "☺/Recall" key once again to turn off the backlight. it will turns off automatically after 1 hour of inactivity. To override the automatic power off, hold down the "⊕/SET+▲/MODE" keys at the same time for 2 seconds to turn on the meter until "n" appears. The automatic power off is disabled after rebooting and needs to be reset.

4. After measurement, rinse the pH electrode and Temp. probe with clean water (e.g. tap water). You can brush the pH electrode tip with a soft brush softly, be careful about the glass bulb for lasting pH electrode life.

5. After using, plug the probe into the soaker bottle and then rotate the bottle to fit into the cover tightly. (make sure there is enough solution which is KCL in it).

ORP Measurement Steps

1. Plug the ORP probe into the port on the top of the meter, and remove the soaker bottle, press “ \odot /SET” to turn on the device, then press the “ \blacktriangle /MODE” key to switch to the ORP measurement mode as shown in the figure below.



2. Dip the ORP electrode in the sample, stir the ORP electrode gently for about 1 minute, the data can be read and recorded when the value is stable.

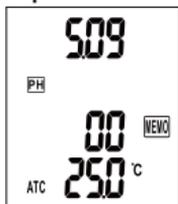
3. After measurement, rinse the ORP probe with clean water (e.g. tap water).

4. After using, plug the probe into the soaker bottle and then rotate the bottle to fit into the cover tightly. (make sure there is enough solution which is KCL in it).

5. The ORP electrode needs to be polished with sandpaper on the platinum piece or platinum loop regularly. The platinum piece or platinum loop should be kept as shiny as possible, otherwise the measurement accuracy will be affected!

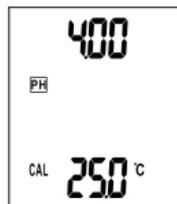
Calibration

1. We recommended that you should calibrate the pH probe every half a month. **Before calibration you should use a soft brush to clean the glass bulb area softly!**
2. Rinse the pH electrode probe with clean water for 1 minute shake off the water on them slightly and wipe the surface of the pH electrode probe with a tissue gently.



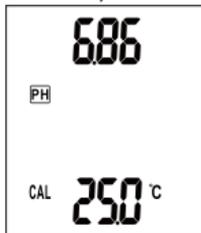
(Normal measurement mode)

← Long press CAL/ESC to calibrate →

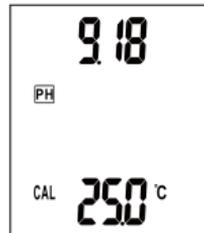


(4.00 correction interface)

3. Dip the pH electrode probe into the 4.00 pH buffer solution (the buffer solution can be placed in a clean container to avoid overturning), gently stir it for 1 minute, press the "CAL/ESC" key for more than 1 second to enter the calibration mode, the value and CAL icon on the screen will flash, press the "Enter" key to complete the calibration, if the difference between the measured value and the buffer solution is less than 0.02 pH, the calibration is correct, otherwise press the "CAL/ESC" key to recalibrate until the calibration is correct.



(6.86 Calibration interface)



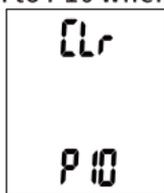
(9.18 Calibration interface)

4. Take out the pH electrode probe, place the 4.00 pH buffer solution back, rinse the pH electrode probe with clean water shake off the water on them slightly and wipe the surface of the pH electrode probe with a tissue gently.

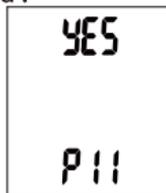
5. Repeat steps 2, 3, and 4 to complete the 6.86 pH and 9.18 pH calibrations. (The buffer solution shall not be mixed with other liquids and shall be stored at room temperature and kept in dark place).

Setting

1.P10 for deleting the saved data: In measurement mode, press the "Ⓞ/SET" key > 1S to enter the setting mode P10, then press the "Enter" key to P11, press the "▲/MODE" or "▼/SAVE" key until "YES" appears press "Enter" again to confirm cleaning all memory meter will return to P10 when memories are deleted .

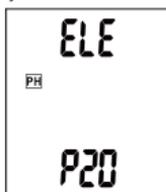


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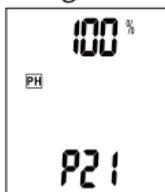


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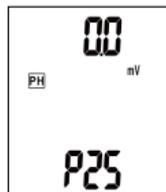
2.P20 for setting pH electrode parameters: In setting mode, press "▲/MODE" or "▼/SAVE" key to switch to P20, press "Enter" key to switch from P21 to P25 in turn, you can check slope value in P21, P22, P23, P24, and check offset voltage in P25.



(P20)



(P21~24)

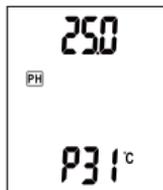


(P25)

3.P30 for setting manual compensation temperature: In setting mode, press "▲/MODE" or "▼/SAVE" key to switch to P30, press "Enter" key to enter P31, and then press "▲/MODE" or "▼/SAVE" key to adjust the manual compensation temperature value, press "Enter" key to complete the manual compensation temperature setting.



(P30)

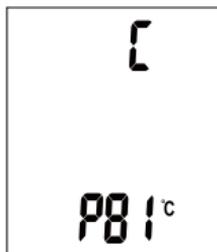


(P31)

4.P80 for switching temperature unit: In setting mode press “▲/MODE” or “▼/SAVE” key to switch to P80, press “Enter” key to enter P81, and then press “▲/MODE” or “▼/SAVE” key to select °C/°F unit press "Enter" key to confirm.

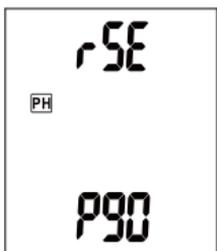


(P80)

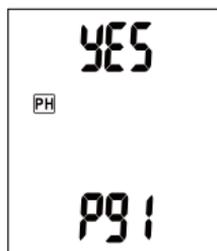


(P81)

5.P90 for clearing calibration data: In setting mode, press "▲/MODE" or "▼SAVE" key to switch to P90, press "Enter" key to enter P91 press "▲/MODE" or "▼/SAVE" key until the word "yes" appears, press "Enter" key to clear the calibration data, after clearing the calibration data, you need to re-calibrate.



(P90)



(P91)

Error code

- 1) E02: Reading is under the lower limit;
- 2) E03: Reading is over the upper limit;
- 3) E04: The original temperature data error result in this error;
- 4) E13: Slope or offset value of pH probe is out of range. Clean or re-calibrate pH probe or replaced with a new probe;
- 5) E31: Measuring circuit failure, repair is required;

Maintenance

1. Misoperation: **leave the pH probe without the soaker bottle after the measurement.** After using, clean the probe and plug the probe into the soaker bottle (make sure there is enough solution which is KCL in it), rotate the bottle to fit into the cover tightly.

2. If not used for a long time, you should handle it as follows:

1) plug the probe into the soaker bottle (make sure there is enough solution), rotate the bottle to fit into the cover tightly.

2) Take out the battery, otherwise the battery solution may leak and cause damage to the meter!

3) Make sure to store it in a temperature above zero **to prevent freezing!**

**Warning: Soaker solution, buffer solution, etc. cannot be eaten!
Keep out of reach of children!**

Temperature effect on pH buffer

ph4.00

5	10	15	20	25	30	35	40	45	50
4.00	4.00	4.00	4.00	4.00	4.01	4.02	4.03	4.04	4.06

ph6.86

5	10	15	20	25	30	35	40	45	50
6.95	6.92	6.90	6.88	6.86	6.85	6.84	6.84	6.83	6.83

ph9.18

5	10	15	20	25	30	35	40	45	50
9.39	9.33	9.28	9.23	9.18	9.14	9.10	9.07	9.04	9.02

Important declare

1. Old batteries must be disposed of in accordance with local laws and regulations.
2. The company reserves the right to update and modify the Design Specifications and Manual of this product without prior notice.

Warranty

1. 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.
2. The above warranty terms are only valid for the main instrument and consumables such as probe accessories are not covered by the warranty.

Dongguan Fulanke Technology Co., Ltd.

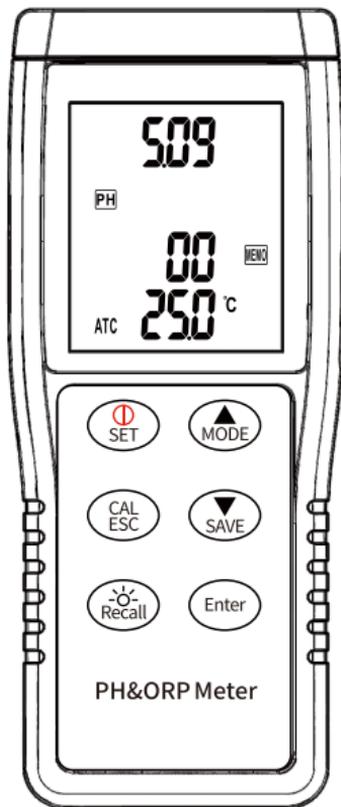
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