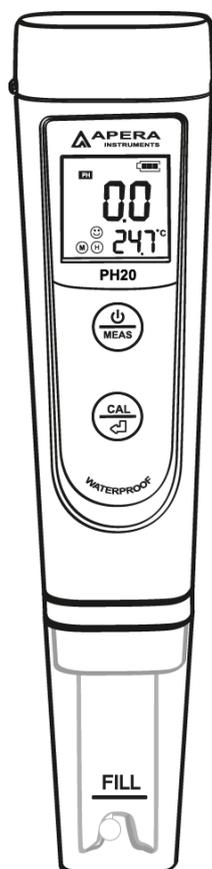


PH20 Value pH Tester

Instruction Manual



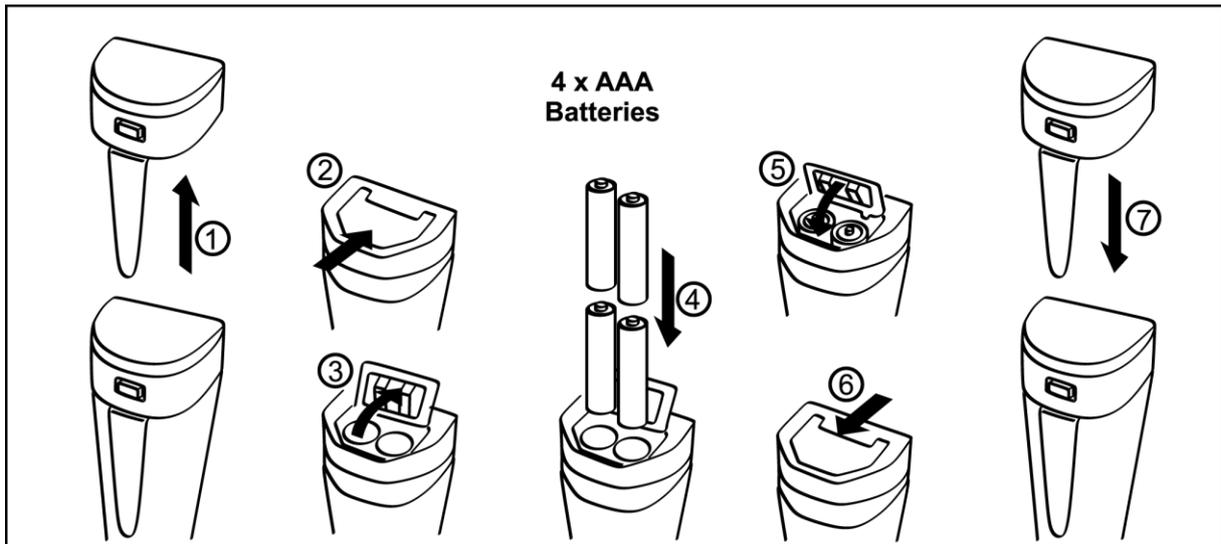
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1. Battery Installation

Please install batteries according to the following steps. *Please note direction of batteries: **All POSITIVE SIDES (“+”) FACING UP.**

(Wrong installation of batteries will cause damage to the tester and potential hazards)



2. Keypad Functions

■ **Short press**----- < 2 seconds

■ **Long press**----- > 2 seconds

	1. Short press to turn on, long press to turn off; 2: When turned off, long press to enter setup; 3: In mode setting, short press to change parameter;
	1. When turned on, long press to enter calibration mode. 2. In calibration mode, short press to confirm calibration; 3. In mode setting, short press to confirm parameter selection.

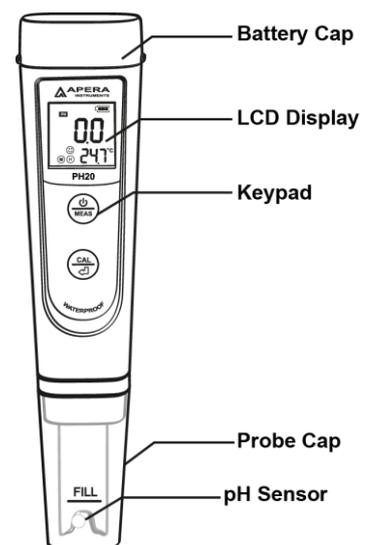


Diagram - 1

3. Complete Kit

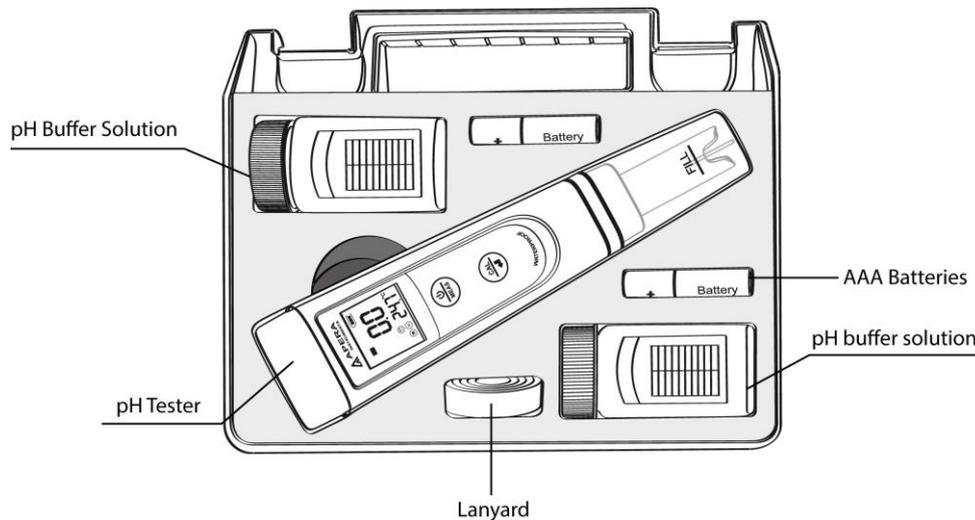


Diagram - 2

4. Calibration

4.1 If first time use or unused for a long time, pour certain tap water in probe cap, soak probe for about 5 minutes.

4.2 Short press  to turn on. Rinse in pure water and dry it.

4.3 Long press  to enter calibration mode; Short press  to exit.

4.4 Soak probe in calibration solution 7.00 pH; Stir gently, leave it to stand, LCD displays  (as Diagram 3), short press , complete 1-point calibration, tester returns to measurement mode, calibration icon  displays on button left side of LCD.

4.5 Rinse probe in pure water and dry it. Long press  to enter calibration mode, soak probe in calibration solution 4.00pH, stir gently, leave it to stand, LCD display , short press , to complete 2 points calibration, tester returns to measuring mode, calibration icon displays on bottom left side of LCD  ;

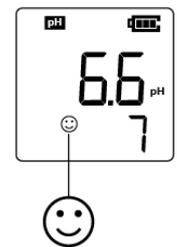


Diagram - 3

Notes

- a) Tester will automatically recognize pH buffer solution, user can choose calibration points: 1point, 2points, or 3points. But 1st point calibration must

be in calibration solution of 7.00 pH, then followed by 2nd or 3rd point calibration. For details, please refer to the following table:

	Calibration Solution	Calibration Indication icon	Recommended Accuracy and Range
1-point Calibration	7.00 pH		Accuracy \geq 0.1pH
2-point Calibration	7.00 pH and 4.00 pH	 	Measuring Range <7.0 pH
	7.00 pH and 10.01 pH	 	Measuring Range >7.0 pH
3-point Calibration	7.00 pH, 4.00 pH and 10.01 pH	  	Wide measuring range

b) Automatic self-diagnostic information: if measured value is more than preset range, LCD will display “Er1”; In calibration mode, if the measured value hasn't been stable, i.e.  has not been displayed on LCD, pressing  will cause LCD to display “Er2”.

5. Measurement

5.1 Short press  to turn on the tester. Rinse probe in pure water and dry it.

5.2 Stir probe in sample solution gently, leave it to stand. Get readings after  comes up and stays.

■ Special Notes

- After each use, users should rinse the pH probe thoroughly.
- For the premixed pH calibration buffer solutions, we recommend replacing them after 10 to 15 times of use to keep its accuracy.
- The instruments will NOT give accurate and stable pH readings when testing distilled or deionized water. This because distilled and deionized water do not have enough ions present for the electrode to function

properly. To measure distilled or deionized water's pH, users need to use a specialized electrode.

- Do not store probe in distilled water or deionized water because they will cause damage to the glass membrane of the pH probe. The probe should be stored in 3M KCL solution for best accuracy or stored without any liquid.

6. Parameter Setting

6.1 Setting Schedule

Prompt Mark	Parameter Setting Items	Code	Factory Default
P1	Select pH buffer	USA – NIST	USA
P2	Back to Factory Default	No – Yes	No

6.2 Parameter Setting

When turned off, long press  to enter setup → short press  to switch P1-P2 → Short press , parameter flashing → short press  to choose, short press  to confirm parameter selection → Long press  to switch off.

6.3 Parameter setting instruction

Select standard pH buffer solution (P1): There are two options of standard buffer solutions: USA series and NIST series as the following chart:

Icons		pH standard buffer solution series	
		USA series	NIST series
Three-Point calibration		1.68 pH and 4.00 pH	1.68 pH and 4.01 pH
		7.00 pH	6.86 pH
		10.01 pH and 12.45 pH	9.18 pH and 12.45 pH

6.4 For the self-diagnosis information, please refer to the table below:

Symbol	Self-Diagnosis information	How to fix
<i>Er 1</i>	Wrong pH calibration solution, which exceeds the recognizable range of the meter.	1. Check if calibration solution is correct 2. Check if probe is damaged.
<i>Er 2</i>	 Is pushed before measurement is stable ( comes up)	Wait for the smile icon to come up and then press 

7. Technical Specifications

pH	Range	0 - 14.0 pH
	Resolution	0.1 pH
	Accuracy	±0.1 pH
	Calibration Points	1 - 3 points
	Automatic Temperature Compensation	0 - 50 °C
Temp.	Range	0 - 50 °C
	Resolution	0.1 °C
	Accuracy	±0.5 °C

8. Tester Functions

8.1 Calibration points indication:   

8.2 Stable Measurement: 

8.3 Self-Diagnostic information: **Er1, Er2**

8.4 Low-Voltage warning:  flashes, reminder of battery replacement

8.5 Auto Power-Off in 8 minutes if no operation.

9. Warranty

We warrant this instrument to be free from defects in material and workmanship and agree to repair or replace free of charge, at option of APERA INSTRUMENTS, LLC, any malfunctioned or damaged product attributable to responsibility of APERA INSTRUMENTS, LLC for a period of **two years** from the delivery (a **six-month** limited warranty applies to probes). This warranty does not apply to defects resulting from actions such as misuse (violation of the instructions in this manual or operations in the manner not specified in this manual), improper maintenance, or unauthorized repairs. Warranty period is the time limit to provide free service for the products purchased by customers, not the service life of the tester or probe.

*Apera Instruments reserves the right to update the information in this manual without giving notice in advance.

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