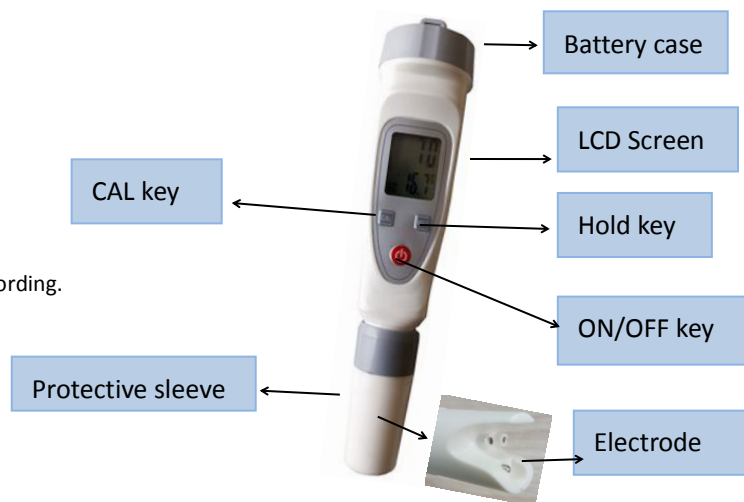


Operation Manual

Pen type PH meter

I. Features:

- 1: Automatic temperature compensation 0-50°C
- 2: Dual measuring and display PH and Temperature
- 3: Three point calibration
- 4: Replaceable electrode
- 5: Hold measurement data for convenient reading and recording.
- 6: Automatic switch off in 5 minutes after non-use
- 7: Low battery indication
- 8: Switch between °C and °F
- 9: Protective cap keeps sensor moistened



II. Specification data

Product	YR-20	YR-220	YR-20W	YR-220W
Tet Range	PH: 0.1-14.0PH; Temp:0-50°C/32-122F	PH: 0.01-14.00PH Temp:0-50°C/32-122F	PH: 0.1-14.0PH; Temp:0-50°C/32-122F	PH: 0.01-14.00PH Temp:0-50°C/32-122F
Resolution	PH: 0.1PH Temp:0.1°C 1F	PH: 0.01PH Temp:0.1°C 1F	PH: 0.1PH Temp:0.1°C 1F	PH: 0.01PH Temp:0.1°C 1F
Accuracy	PH: ±0.1PH Temp:1°C/2F	PH: ±0.02PH Temp:1°C/2F	PH: ±0.1PH Temp:1°C/2F	PH: ±0.02PH Temp:1°C/2F
calibration	PH:25°C 3 points 4.0 7.0 10.0	PH:25°C 3 points 4.00 7.00 10.01	PH:25°C 3 points 4.0 7.0 10.0	PH:25°C 3 points 4.00 7.00 10.01
electrode	Inlay electrode		Outlay electrode	
Working temp	0-50°C (32-122F)			
power	1.5V*4			
size	Φ40*185mm			
weight	88g			

III. Operation instruction

- 1) Remove the electrode protective sleeve, agitate the PH electrode in pure water or distilled water to wash, then dry the meter. Press ON/OFF to switch ON, immerse the electrode in the test solution, remain still after shaking slightly, the test result can be get after the reading stable.
- 2) The meter is factory reset °C temperature display, if you want to convert, please follow the following method: remain the PH meter OFF status, press "CAL" and hold, then press ON/OFF to switch ON until it displays "°C" or "°F" on the right side of screen, lose hold of CAL; Press CAL again to choose "F" or "C" and press hold to preserve your choice; When you finish all these steps, you can see "SA" on the screen, which means your choice has been reserved and the meter is under standard temperature test mode.

IV. The calibration

- 1) The PH meter has been calibrated already in our factory, which can be used directly. After long time use, test results may appear deviation, in this case, must carry on the calibration. (if the electrodes are in the dry state, please soak the electrode in clean water for 5-10 minutes to activate the electrode.) First prepare standard buffer, temperature at 25 ° C is preferred.
- 2) Press ON/OFF to switch ON, immerse the electrode in the standard buffer solution PH7.00, remain still after shaking slightly. After the reading stable, press CAL for 3 seconds til it display "CAL" on the screen. Release the CAL button. The meter will automatically identify the current solution. It will show the current test value for 1 mins and then show the standard buffer PH value under current temperature. Then "SA" will be shown, which means the meter is now remembering the calibration results. Then "END" will show on the screen. 1 mins later, the meter will be under standard test mode. The method to calibrate under PH4.00 and PH10.00 is same.
- 3) if "END" shows on the screen 1 min after press CAL, it means that the standard buffer has lost its efficiency or, it is out of test range. Please check whether the standard buffer is still workable, or whether the electrode is aging. Press any key to enter into test mode.
- 4) special instructions: when the PH meter is under calibration, pls do not take the meter out of the standard buffer until it shows END. DO NOT press CAL button unless the meter is under calibration mode.
- 5) Press ON/OFF button to turn on the meter, the meter is already under test mode. Press HOLD button to lock the reading and press HOLD button again to unlock.

V. Outrange

When the PH value of test solution if less than 0.00 or more than 14, it will show " - - -".

When the temperature of the test solution is less than 0°C or more than 50°C, the temperature display area will show "L" or "H".

VI. Low voltage tip

When the display become darker and show a battery symbol, it means the battery voltage is insufficient, please replace the new battery as soon as possible, remember that don't mix of old and new batteries.

VII. Maintenance

Please keep the electrode clean, and cover the protection sleeve. Placed in a cool, ventilated place.

VIII. Cautions

- 1) PH meter belongs to the professional instrument, amateurs please operate under the guidance of professionals, so as not to cause equipment failure!
- 2) Please use the standard buffer and calibrate under right directions. Any incorrect operation may cause huge measuring error. DO NOT press CAL under incorrect calibration status. It will cause incorrect memory, which may cause the instrument can't normal work or measurement error exceeds.
- 3) DO NOT throw the whole test pen into the test solution. Immerse the glass electrode in solution is ok. Please pay attention to the electrode fixed collar to check whether it is loose. If loose, the solution may enter into water and destroy the meter.
- 4) When calibration, choose a standard buffer whose PH is close to test solution.
- 5) Calibration is needed when the electrode has been used continuously for one week, has not used for long time, or changed a new electrode, or the test solution is too acid/alkaline or contains fluoride.
- 6) To keep the PH Crystal bulb active, it has been in wet condition. If the electrode keep dry, its responding time takes long and accuracy decrease. Therefore, our waterproof YR-20/220 pen types PH meters contains a sponge. The users should keep the sponge wet. When it turns dry, add some PH4.00 standard solution. (do not add too much) and keep protective sleeve on the meter when not using. If the electrode has not be used for long time and very dry, please insert it into 3.3MOL/L KCL solution for a few hours. Or use specific electrode soaking solution.
- 7) The crystal bulb cannot be touch with any hard substance. Any damage or scrub may cause efficacy lose. Before or after the use of meter, the electrode should be wash in purified water. After test the viscous solution, the electrode need to wash again and again, or use specific solution to wash and then wash in purified water.