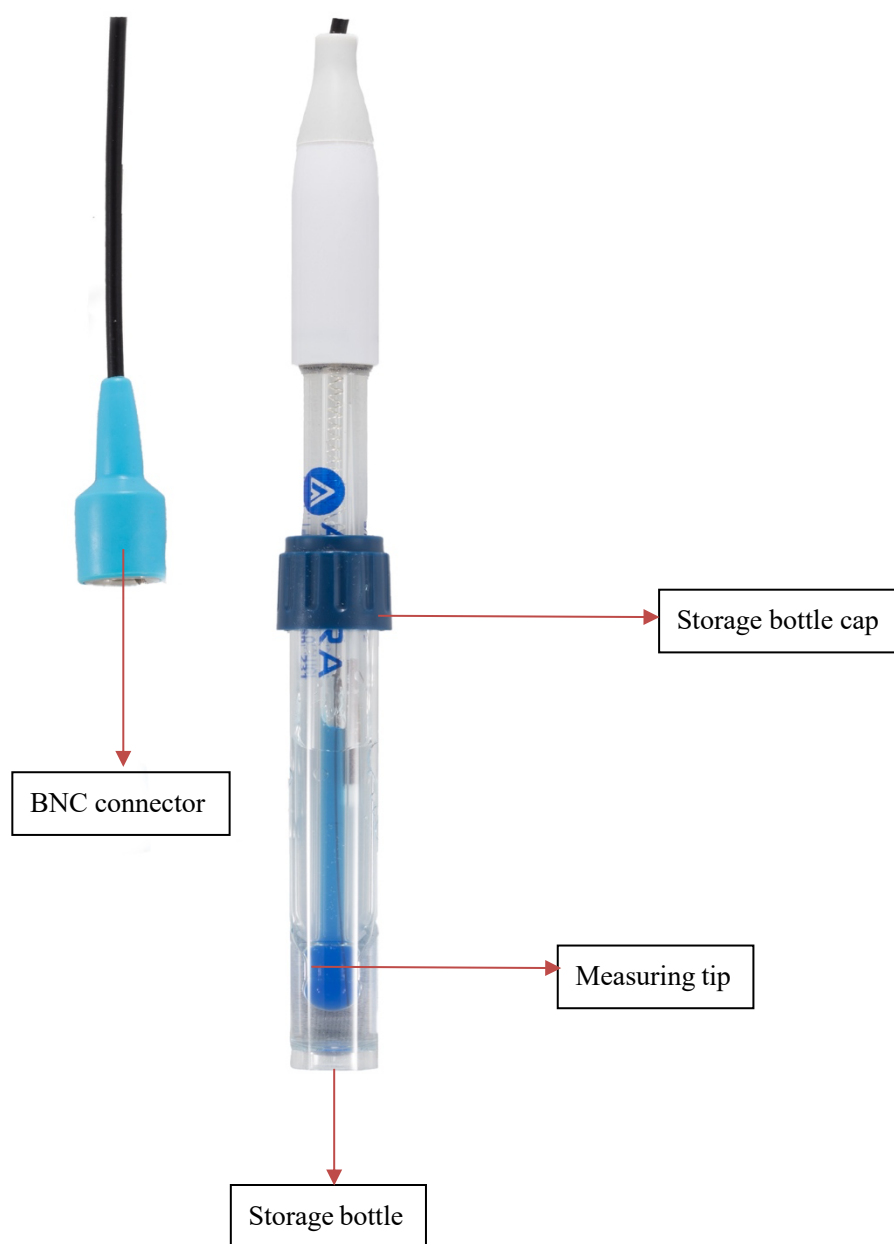


LabSen[®] 231 pH Electrode User Manual



Built with proprietary sensor technology and premium materials from Switzerland, Apera LabSen 231 Glass-body pH Electrode is designed for testing wastewater, emulsions, suspensions, and other complex solutions that tend to cause junction clogs to regular pH electrodes.

Features

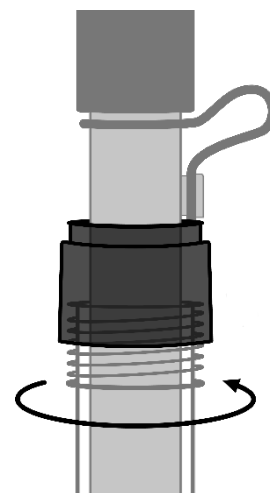
- Built with LabSen S-type hemispherical glass membrane, featuring low resistance (fast response) and high firmness
- Open junction + Polymer electrolyte, ideal for testing wastewater, emulsions, and suspensions.
- Long-Life Reference System, improving the stability of reference system and extends the electrode's service life
- The blue gel electrolyte eliminates the chance of any air bubbles inside the sensor

Technical Specifications

Measuring Range	0 - 14 pH
Temperature Range	-5 - 80 °C
Membrane Type	S
Body Material	Lead-free Glass
Reference	Long Life
Junction	Open
Reference Solution	Polymer
Soaking Solution	3M KCL
Membrane Resistance	<200MΩ
Electrode Dimension	(Φ12×120) mm
Connector	BNC
Cable	Φ3×1m

How to use

1. Insert the blue BNC connector of the electrode to the BNC socket of your pH meter while twisting clockwise until it's locked.
2. Before measuring, twist off the storage bottle cap (see graph on the right), pull out the electrode and rinse it off with distilled or deionized water.
3. Perform at least a two-point calibration before measuring after connecting the new electrode to your pH meter.
4. After using, put the electrode back into the storage bottle, twist on the bottle cap.



Maintenance

1. When not in use, the electrode should be soaked in the storage bottle containing 3M KCL soaking solution (SKU: AI1107) to keep the glass membrane and junction in a healthy condition. Clean the bottle and replace the soaking solution if it gets contaminated. The electrode should never be stored in pure water such as deionized or distilled water.
2. The electrode is only as accurate as it is clean. Always thoroughly rinse off the probe before and after each measurement with pure water in a container or with a wash bottle.
3. For tough contaminants, soak the electrode in Apera cleaning solution (AI1166) for 30 minutes. Then use a soft brush to remove the contaminants. Afterwards, soak the electrode in 3M KCL solution (SKU: AI1107) for at least 1 hour. Rinse it off, then re-calibrate it before using again.
4. The connector of the electrode should be kept clean and dry. If contaminated, please clean it with medical cotton and isopropyl alcohol and blow-dry it to prevent short circuit of the electrode or slow response of the electrode.
5. The electrode should avoid testing strong acid and strong alkali solutions, as well as dehydrating media such as absolute ethanol and concentrated sulfuric acid. If testing such solutions, the immersion time should be minimized and the electrode should be carefully cleaned after use.
6. Every pH electrode will eventually age and fail. The typical service life of Apera pH electrodes is 12-24 months depending on the frequency of usage and how well you keep it clean and properly stored. We recommend replacing your electrode every 12-18 months to ensure the best performance.

Warranty

We warrant this electrode 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 SIX MONTHS from the delivery.

This limited warranty does NOT cover any damages due to:

Accidental damage, transportation, storage, improper use, failure to follow the product instructions or to perform any preventive maintenance, unauthorized repair or modifications, normal wear and tear, or other external causes or actions beyond our reasonable control.

To get the fastest warranty fulfillment, go to support.aperainst.com and click “**New Support Ticket**” on the upper right corner. Type your email in the requester field, “Warranty” in the Subject field, and then input the following information in the description field:

- Your full name
- Product model that needs warranty fulfillment
- Serial number of the product (can be found on the back sticker of the tester body)
- What problem or issue you had experienced with the product
- Attach a photo of your proof of purchase
- Attach a photo of the problematic product

Then click Submit. One of our customer care specialists will help you fulfill the warranty within one business day.

APERA INSTRUMENTS, LLC

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