201-C pH Electrode User Manual

Brief Introduction

Apera Instruments 201-C pH Electrode is featured with a proprietary lithium glass membrane for fast and stable readings. The gel inner reference solution does not need to be refilled. This electrode is designed for testing in general water solutions. The electrode may NOT work well in the following situations:

1. Long-term testing in high temperature solutions (>122°F or 50°C)
2. Frequent testing in strong alkaline (>12 pH) or acid (<2 pH) solutions
3. Testing low ionic strength solutions like distilled or deionized water
4. Testing caustic solutions that will corrode the polycarbonate housing of the electrode

Technical Specifications

Range	0 to 14 pH
Housing	Polycarbonate
Junction	Single ceramic
Reference electrode	Ag/AgCl
Reference solution	Gel KCL
Connector	BNC
Cable length	3 Ft
Dimension	ø12*160 mm
Temperature sensor	N/A
Operating temperature	32 to 176°F (0 - 80°C)

How to Install the Electrode

1. Find the BNC socket (where it shows pH ORP) on the pH meter; Open the rubber cap; Insert the blue BNC connector of the electrode to the BNC socket while twisting clockwise until it's locked.
2. After installing the new electrode to your meter, a 3-point calibration must be performed to ensure the accuracy.

How to Use the Electrode

1. There is a proper amount of storage solution in the storage bottle on top of the electrode. The pH glass sensor tip is soaked in it to keep its sensitivity.
2. Before measuring, loosen the bottle cap, then pull out the electrode while twisting counterclockwise. Place the storage bottle at a safe position.
3. Rinse the electrode with purified water and shake off excess water or blot-dry it with clean tissue or filter paper. Never rub the glass membrane.

4. Insert the electrode into your sample solution and stir it for a few seconds in the solution to remove potential air bubbles, which may cause unstable readings. Then wait for the stable reading and take the measurement.
5. After use, insert the electrode while twisting clockwise into the storage bottle, then tighten the bottle cap. If the KCL storage solution (SKU: AI1107) in the cap is contaminated, please fill in new storage solution (other brands' storage solution may not work with this electrode).

How to Maintain the Electrode

1. Always rinse the electrode with purified water (distilled or deionized water) before and after each test and calibration. For general contaminants stuck on the glass bulb sensor, use warm soap water and a soft brush to clean off; For special contaminants, please refer to the following table for proper cleaning solutions:

Contaminant	**Cleaning Solutions**
Inorganic metal oxide	Dilute acid less than 1mol/L
Resin macromolecule	Dilute alcohol, acetone, ether
Proteinic haematocyte sediment	Acidic enzymatic solution (saccharated yeast tablets)
Paints	Dilute bleacher, peroxide

2. Make sure the glass bulb sensor is covered by the KCL storage solution (SKU: AI1107) in the storage cap when not in use.
3. Never store pH electrodes in pure water such as RO water, tap water, distilled water, or deionized water as they will cause damage to the electrode.
4. Keep the electrode connector clean and dry. Use cotton balls with isopropyl alcohol to clean if it gets dirty and then blow-dry it. This is to prevent a potential short circuit, which will undermine the electrode's performance.
5. pH electrodes do not last forever. They age through normal use and eventually will fail. The regular service life of the pH electrode is 1-2 years. If you feel like the response of your pH electrode is becoming unusually slow, or the slope is lower than 90% (most Apera portable/benchtop pH meters will show the slope data between every two points of calibration), it's time to replace with a new electrode to ensure accuracy.

Limited Warranty

We warrant this electrode to be free from defects in material and workmanship and agree to repair or replace free of charge, at the option of APERA INSTRUMENTS any malfunctioned or damaged product attributable to responsibility of APERA INSTRUMENTS for a period of SIX MONTHS from the delivery. This warranty does not cover any damages due to:
Accidental damage, transportation, storage, improper use, failure to follow the product instructions, unauthorized repair, normal wear and tear, or any other actions or events beyond our reasonable control.