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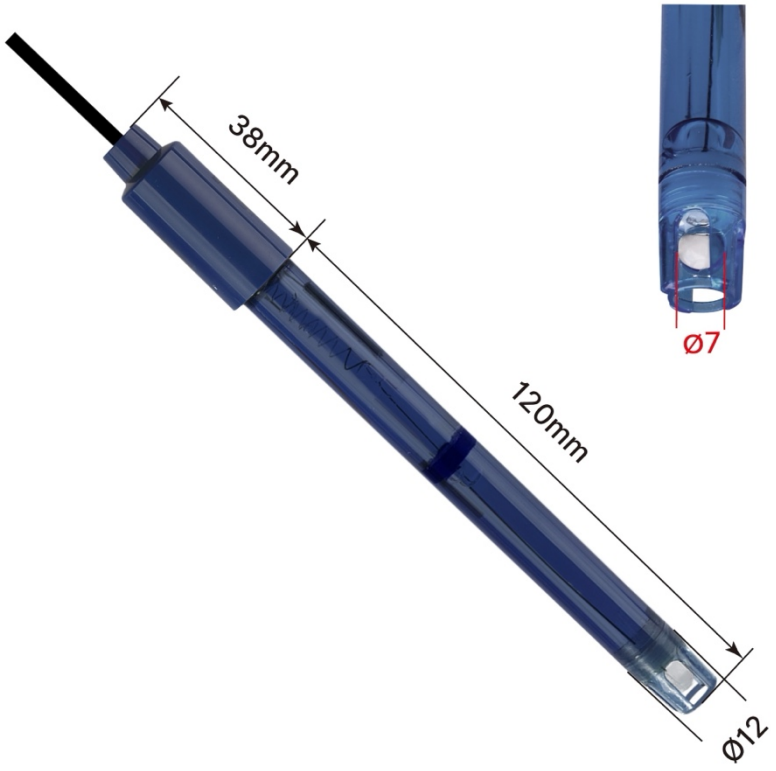
203DJ Series pH Electrodes

User Manual



The 203DJ series pH electrodes are designed for lab, field, and long-term continuous measurement of general water solutions' applications, such as swimming pool water, wastewater treatment, hydroponic irrigation systems, environmental water monitoring, etc.

This series of electrodes is NOT suitable for measuring the following solutions:
High-temperature solutions, strong alkaline solutions, high-salinity solutions, strong acidic solutions, solutions containing hydrofluoric acid, pure water, low-temperature solutions, organic solvents, and viscous solutions

Main Features

- The reference system is composed of Swiss double ceramic junctions and a long-life reference electrode, effectively minimizing the chance of junction clogging and contamination, and enhancing long-term stability.
- Apera's proprietary lead-free lithium-based glass membrane delivers exceptional measurement accuracy but also enhanced safety and environmental sustainability.
- The protective cap at the front of the electrode can be unscrewed for easy cleaning of the glass bulb and junction.

Model Difference

Model	Connector	Temperature Sensor
203DJ-C	BNC	N/A
203DJ-Cab	Terminals	N/A
203DJF-Cab	Terminals	NTC30kΩ/PT100/PT1000
203DJ-F	BNC+RCA	NTC30kΩ/PT100/PT1000
203DJ-Q	BNC+4 pin	NTC30kΩ/PT100/PT1000
203DJ-S	8 pin	NTC30kΩ/PT100/PT1000

Technical Specifications

pH Range	0 to 14 pH	Reference Electrolyte	KCl Gel (non-refillable)
Temp. Range	0 to 80˚C	Membrane Shape	Spherical
Housing Material	PC	Dimension	Φ12*120 mm
Reference Electrode	Long-life	Junction	Double Ceramic
pH glass impedance	~100MΩ	Response	~95% within 30 seconds
Offset	±20 mV	New electrode slope	97 to 102%

How to Use

1. Before measuring, loosen the storage vial locking ring by twisting it counterclockwise. Then pull out the electrode slowly, and rinse it off with distilled or deionized water.
2. Connect the electrode to your pH meter. Perform at least a two-point calibration following your pH meter's guide before your first measurement.
3. When the electrode is immersed in a sample solution for extended periods, junction potential errors may occur, leading to deviations in zero potential and alkaline slope. So we recommend soaking the electrode in your sample solution for 1–2 hours before the first calibration to effectively eliminate this error for long-term continuous test.
4. The sensitive glass bulb at the front of the electrode must not bump into hard objects. Any damage or scratches on the glass bulb will render the electrode unusable.
5. Never wipe the glass bulb, as this will cause static electricity and affect electrode performance.
6. Before measurement, ensure that any air bubbles inside the glass bulb are shaken out; otherwise, unstable readings may occur.
7. During calibration, the temperature of the calibration solution and the sample solution should be similar (within 10˚C) in order to minimize temperature-related measurement errors.

How to Maintain the Electrode

1. When not in use, the electrode should be soaked in the storage vial containing 3M KCl 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 electrode 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 Protelyte solution (SKU: AI1190) 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. 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. For in-line continuous test, we recommend replacing the electrode at least every 12 months to ensure the best performance.

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 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.

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