PH Sensor Manual

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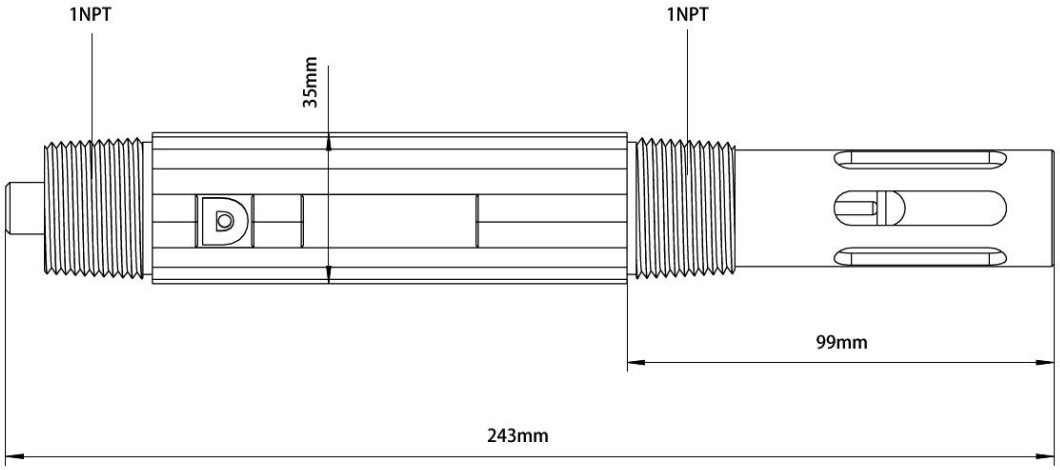
ASP300 series electrode is a composite electrode composed of a glass electrode and a reference electrode.

Specification

Model	ASP300V	ASP300T	ASP300N
PH	0~14pH		
Reference Electrode	Ag/AgCl		
Electrolyte	KCl Solid Gel		
Reference System	Double junction		
Reference Membrane	Porous Teflon		
Glass Head	Transparent low impedance		
Zero (E0) pH	7±0.25pH(15mV)		
Slope (SLOP) %	≥95%		
Working Pressure	0~2Bar		
Working Temperature	0.0~60.0℃		
Materials	ABS+Glass+Teflong		
Temperature Unit	Vacant	PT1000	NTC10K
Shell Material	ABS		
Dimension	Diameter 35mm/Total length 260 mm (include the cleaning cover)		
Cable Length	10m		
Installation size	1 NPT of the head and the tail for each install thread; Insert depth 100(including cleaning plug 115)		

Dimension



Installation

1. Open the package and check the contents of the list

Standard accessories

① Sensor body (A1)

② Protection bottle (A2)

③ Sensor wire (A3)

④ 4-Foot protection (A4)

⑤ Sensor cleaning sheath (A5)

⑥ Manual

★ Special note

When opening the A1-1 protective cover, be careful not to touch the glass bulb or other sensitive components inside.

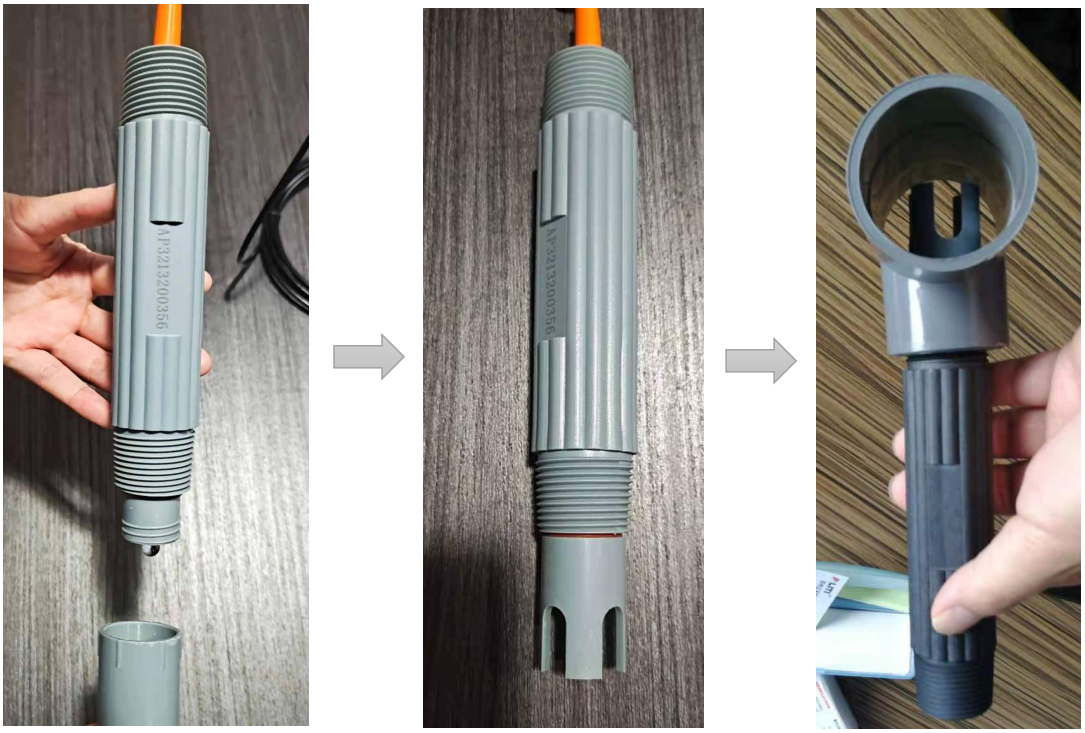
2. Installation in the pipeline (recommended)

Threaded tee connection (optional accessory)

① Remove the sensor protection bottle (A2)

② Install 4-foot protection (A4)

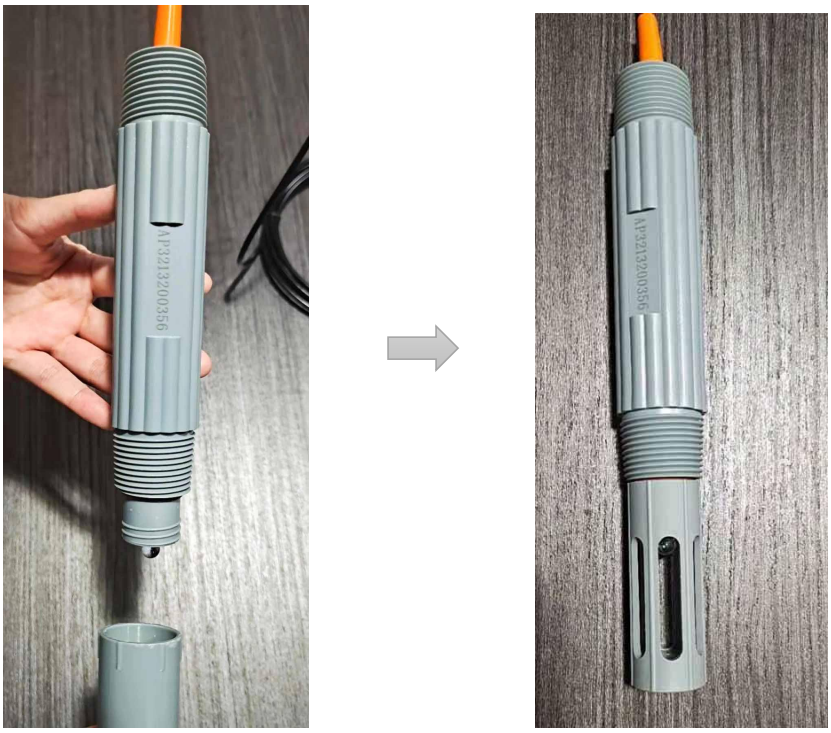
③ Screw the sensor with the foot protection installed into the tee connector



3. Open environment installation (recommended)

① Remove the sensor protection bottle (A2)

② Install the cleaning sheath (A5)



Maintenance and Use Method

1. Before use, check the measuring film (glass bulb) on the front of the glass sensor. Under normal circumstances, the sensor should be transparent and free of cracks; the bulb should be filled with solution and there should be no bubbles. If available, shake the sensor lightly a few times.

2. Under normal circumstances, the new pH sensor needs to be adjusted and soaked in distilled water for a period of time to form a good hydration layer; the soaking time is related to the glass composition and film thickness. Generally, the immersion time of the new sensor is 24 hours; TITO The pH sensor only needs to be immersed in 3N KCL solution or deionized water for 2-10 hours.

3. The sensor cannot be used in strong acid and alkali solutions for a long time. When measuring a solution with a large concentration, try to shorten the measurement time as much as possible, and clean it carefully after use to prevent highly corrosive solutions from etching the sensor and causing damage.

4. When the sensor is not in use, it can be fully immersed in 3M potassium chloride solution to prevent the pH glass and the junction from drying out. Never use washing liquid or other water-absorbing reagents to soak. And prohibit dehydration storage.

5. When the sensor is contaminated and its performance decreases, it should be cleaned in time, and the cycle should be reasonably arranged according to the actual situation.

6. After cleaning the sensor, do not wipe the glass membrane with filter paper, but apply filter paper to soak it dry to avoid damaging the glass membrane, preventing cross-contamination, and affecting measurement accuracy.

7. It is strictly forbidden to use it in dehydrating media such as absolute ethanol and potassium dichromate.

8. If there are components that corrode glass in the solution you are measuring, such as hydrofluoric acid, please select a pH sensor with a metal film. The glass film sensor is not available.

9. The normal temperature pH sensor is generally used at 4-60℃, and the temperature difference should not be too large in a short time. The working pressure is generally not more than 2 kg. If it exceeds this use environment, it will be difficult to guarantee the measurement and the sensor will be damaged. If your working environment is special, then be sure to tell the manufacturer the actual situation, there will be more types of sensors for you to choose.

10. If your application contains protein, heavy metals (Ni, Cd, Cu, Cr, Ag), sulfide, cyanide or iodide will react with silver or chloride ions, so finally choose a double junction sensor, it will provide extra protection.

11. Due to the limited life of the pH sensor. It is important to keep a spare sensor on hand. The important feature of the backup sensor is that it can work immediately when neede.

Sensor Cleaning

1. Even after using in a benign sample solution, the performance of the pH sensor may be weakened, the response becomes slower, and the performance is hindered. In order to prolong the life of the sensor, it is necessary to pay attention to the cleaning and maintenance of the sensor.

2. When the pH sensor becomes slow, blocked or contaminated by debris, some measures can be taken to restore its performance. After using for a period of time, the pH sensor may respond slowly, difficult to calibrate, inaccurate readings, or deviations in Eo and slope. The reason is that the sensing glass film is covered with something. This covering layer can be oil, grease, protein, metal ions or other contaminants. Usually, the sensor is immersed in a solution that can remove the covering layer or cleaned with such a solution to remove the covering layer, which is similar to cleaning glasses.

3. Metal ions, some proteins and organic matter can be removed by soaking the sensor in 0.01N HCl for 10-20 minutes, and then soaking the sensor in the pH soaking solution for 1-2 hours. Then rinse the sensor with deionized water and recalibrate.

4. To remove protein, use hydrochloric acid containing refined pepsin. Refined pepsin will digest protein and restore the glass surface. Soak the pH sensor cleaned with refined pepsin in the pH storage solution and recalibrate.

5. Grease can be removed by washing with acetone or formaldehyde and then with warm water and dishwashing detergent. pH glass is fragile, so be careful if you clean it with a machine. The sensor cleaned in this way must be adjusted in the pH soaking solution and recalibrated.

6. When not in use, the pH sensor should be stored in the pH sensor soaking liquid to ensure that the sensor glass remains hydrated and the measurement is accurate and rapid. The soaking fluid will also fill the reference salt bridge with KCl. It is recommended not to immerse the pH sensor in distilled or deionized water.

7. If all the methods do not work, the sensor is probably at the end of its service life and needs to be replaced.

8. Special recommendation:
   special ultrasonic cleaning device.

★ Special note

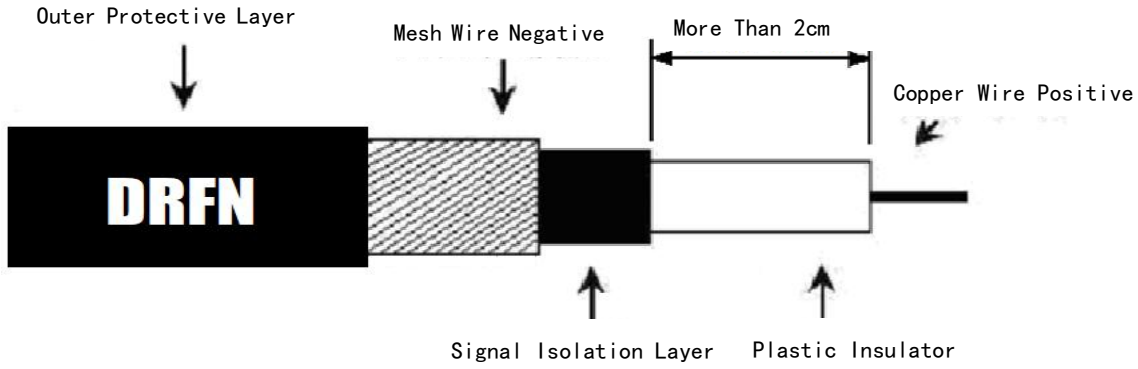
Life and Warranty of PH Sensors

Different sensors have different service lives, generally 0-24 months, and different products will also provide quality assurance periods with different lengths of time. Quality assurance is limited to quality problems that occur due to the product itself.

It is clear that the following conditions will lose the quality assurance service:

1. Corrosion, fracture, burst, leakage, etc. of the product body caused by improper use.
2. The permeable membrane is blocked due to improper use or non-maintenance.
3. The glass bulb on the front of the glass sensor is broken or incomplete.
4. Cut the sensor wire at will, or peel off the sensor wire mark.
5. When sending it back for inspection, the original packaging is not used or the packaging causes damage.
6. When sent back for maintenance, it was damaged due to failure to clean or dehydrated storage.
7. Damage caused by other man-made or improper use and maintenance.

Cautions for PH Sensor Wire Wiring



- The "signal isolation layer" in the figure is a black carbon fiber conductive material wrapped in a "plastic insulator". It must be peeled off cleanly. At the same time, be careful not to damage the "plastic insulator" and keep at least 2 cm away. The "signal isolation layer" must not be wired with the "copper wire positive electrode".
- When the wires are connected, the "positive" and "negative" must be separately wrapped with insulated electrical tape, and they must be dry.
- It is absolutely forbidden to immerse the signal wire connector in water. It should be arranged in a dry place as much as possible, or placed in a waterproof box.
- When extending the wire, do not try to use a common coaxial cable without a "signal isolation layer", otherwise the signal will not be transmitted correctly.