



Recorder



Flow



Pressure



Temp



Analyzer



Level

Datasheet

pH High-Temperature Glass

Electrode

SUP-pH-5015

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Datasheet**pH High-Temperature Glass Electrode
SUP-pH-5015**

The principle of pH/ORP sensor measurement is electrochemical method and galvanic battery principle. The primary battery is a system whose function is to turn chemical energy into electrical energy. The voltage of this battery is called electromotive force (EMF) which is made up of 2 half-cells, of which one is called a measuring cell whose potential is related to specific ionic activity; the other is a reference half-cell, commonly known as a reference sensor, which is generally interlinked with the measuring solution and is connected to the measuring instrument. The potential difference produced by the galvanic interaction inside the sensor is transmitted to the pH controller, and the corresponding algorithm is transmitted to display the pH value.

Applications

- Chemical
- Metallurgical
- Bioengineering and Pharmaceuticals
- Food & Beverage Industry
- Power industry

Features

- The electrode is easy to use, no need to replenish electrolyte, and has good waterproof performance.
- The electrode has fast response time, good stability and strong anti-interference ability.
- The electrode is not easy to be polluted and blocked, and has a long service life.
- Strengthen the reference system to cope with complex working conditions.

**pH High-Temperature Glass
Electrode**

Principle

The pH high - temperature electrode mainly consists of a pH - sensitive membrane, a reference electrode, an internal reference solution, an electrode rod and wires.

When the electrode is immersed in the solution, the pH - sensitive membrane exchanges ions with hydrogen ions in the solution. A potential difference related to the hydrogen - ion activity is formed between the membrane and the solution. The reference electrode provides a stable potential.

According to the Nernst equation ($E = E^0 + \frac{2.303RT}{nF} \log a_{H^+}$), the measured potential difference (E) is related to the hydrogen - ion activity (a_{H^+}). By measuring this potential difference, the pH value of the solution can be calculated.

Parameters	
Connector	VP, S8M, K2, etc
Zero potential point	7 ±0.5 pH
Conversion coefficient	> 98%
Membrane resistance: general	<250MΩ
Practical response time	< 1 min
Installation thread	PG13.5 thread
Installation method	Pipe,thread,flange
Temp compensation	Can be customized
Measurement range	(0~14) pH
Salt bridge	Porous ceramic core; porous Teflon
Temperature compensation	Pt100/Pt1000/NTC10K
Temperature	(0~130) °C
Pressure resistance	0.25MPa
Thread Connection	PG13.5
Reference type	Ag/AgCl
Salt Bridge	Single Point Ceramic Salt Bridge
Shell material	glass

Maintenance

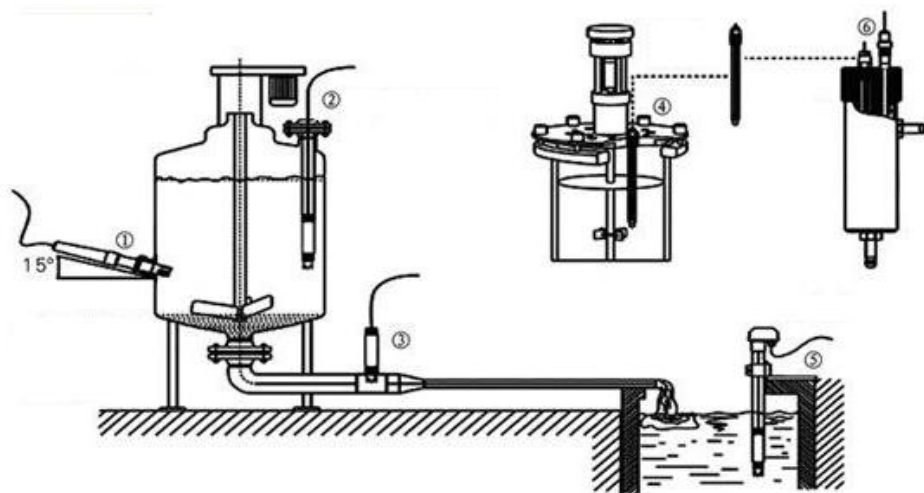
- (1) An appropriate amount of 3.3 mol/L KCL solution is contained in the protective cover at the front part of the sensor, in which the sensor head is immersed so as to maintain the activation of the sensitive membrane and the liquid junction.
- (2) When the sensor is used, the front transparent protective cover needs to be removed, and the glass bubble and the liquid junction be immersed in the solution for use.
- (3) Before installation, make sure to use thread seal tape (at 3/4 threads) for waterproofing and sealing to avoid water into the pH sensor, resulting in short circuit of the pH sensor cable.
- (4) When measuring, it shall be washed in distilled water (or deionized water) and dried with filter paper to prevent impurities from entering the measured liquid. The sensor sensitive membrane and the liquid junction shall be completely immersed in the measured liquid.
- (5) Check whether the connecting terminal is dry. If there is contamination, please wipe it with anhydrous alcohol and blow dry it for use.
- (6) It is suggested that users clean the sensitive membrane and liquid junction in front of the sensor periodically and coordinate with the instrument correction regularly.
- (7) When the sensor is not used, it shall be washed and inserted into the protective cover with saturated KCl solution.

Calibration

- (1) It is recommended to calibrate the sensor by three-point method. The pH 4.00 buffer solution is usually used for positioning first, then the pH 6.86 and pH 9.18 buffer solutions are used sequentially to determine the slope, calibration points are selectable in the meter.
- (2) After the sensor is connected to the instrument, please connect the instrument to the power supply to preheat it for 30 minutes before performing the calibration.
- (3) When performing the calibration of calibration sensor, it shall be noted that the sensor can not be placed flat, but shall be placed vertically (please put the sensor sensitive membrane downward) to prevent deviation of the sensor mV data.
- (4) For sensors with temperature compensation, switch the controller to automatic temperature compensation.

Installation

■ Installation



Schematic diagram of common installation method

- ① Side wall installation
- ② Flange mounted at the top
- ③ Pipe installation
- ④ Top installation
- ⑤ Submersible installation
- ⑥ Flow-through installation

The interface must be in 5 oblique angle, or it will affect the normal test and use of the electrode. We won't be responsible for any results due to this.

Ordering code

SUP-PH-5015 -ZY-A-G-0-1-00-SP								Description
SUP-pH-5015	-	-	-	-	-	-	-	Cable Connector
Electrode Connector	ZY							S8
	S8							VP
	VP							Others
	XX							
Salt Bridge Type		A						Single Point Ceramic Diaphragm
		C						Ring Shaped PTFE Diaphragm
		B						Porous Ceramic Diaphragm
		X						Others
Sealing Ring Material			G					Silicone Rubber
Temperature Compensation Type				0				No
				1				NTC 10K
				3				NTC 30K
				4				PT1000
				5				PT100
				2				NTC 22K
Pressure Resistance					1			0.3MPa
					2			0.6Mpa
					X			Others
Cable Length						00		0m
						05		5m
						10		10m
						15		15m
						20		20m
						30		30m
Housing Material and Thread Type						XX		Others
							SP	Glass, PG13.5