PH02 -*-2-*
Industrial PH Transmitter
User Manual(Analog type)



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1. product description

This product is a device for measuring the pH value (hydrogen ion concentration index, pH) of a solution, and can be equipped with an automatic temperature compensation function. This product is suitable for industrial sewage, domestic sewage, agriculture, aquaculture and other scenarios in a non-corrosive weak acid and weak alkali environment.

1.1Features

- pH measurement range: 0~14pH, resolution 0.01pH.
- The applicable range of automatic temperature compensation is 0~80℃.
- Automatic temperature compensation is optional. The default temperature of equipment without temperature compensation is 25℃.
- The equipment adopts wide voltage power supply DC 10~30V (0~10V voltage output requires DC 24V power supply).
- The product shell is IP65 protection grade and can be used in outdoor rain and snow environment.

1.2 Equipment technical parameters

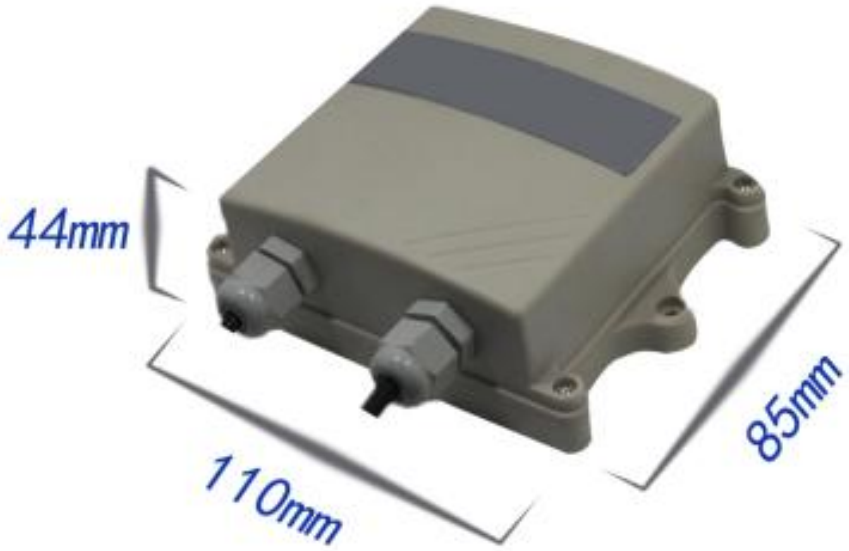
powered by	DC 10~30V	
Power consumption	0.6W	
output signal	Current	4~20mA
	Voltage	0~5V/0~10V
pH measurement range	0~14.00pH; division value: 0.01pH	
pH measurement error	±0.15pH	
Repeatability error	±0.02pH	
Equipment working conditions	Environment temperature: 0-60℃	
Electrode applicable temperature	Relative humidity: <85%	
Electrode wire length	0~80℃	
Electrode life cycle	5m, 10m, 15m, 20m optional (default 5m)	

1.3 product model

PH02-				Industrial PH transmitter
	I20-			4~20mA current output
	V05-			0~5V voltage output
	V10-			0~10V voltage output
		2-		Wall-mounted king-shaped shell
			201	Conventional composite electrode without temperature compensation
			201T	Conventional composite electrode with temperature compensation

1.4 Equipment size

Wall mounted: **110×85×44mm**
king shaped shell



1.5Electrode size and installation

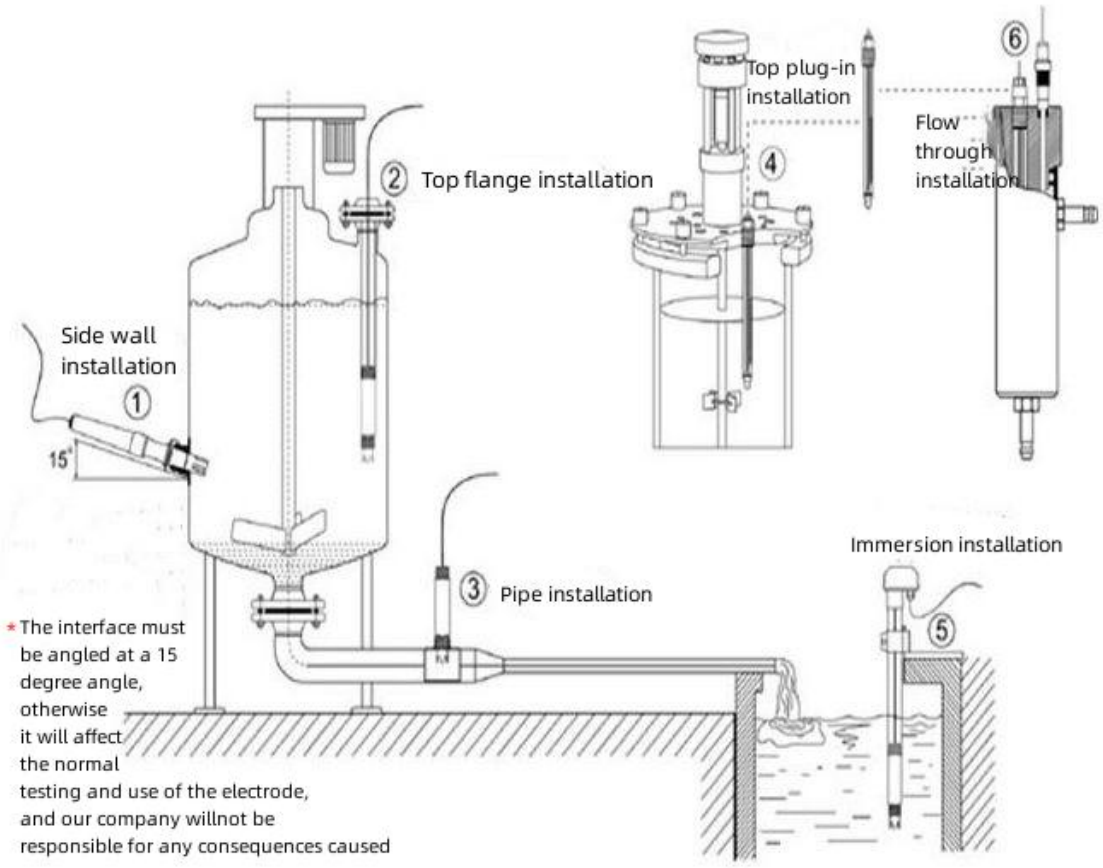
1.5.1Electrode type and size



This product uses a conventional composite electrode, which is suitable for the measurement of solutions such as conventional sewage, tap water, environmentally friendly sewage, and domestic sewage.

1.5.2Electrode installation

1. Submerged installation: the lead of the pH electrode is threaded out of the stainless steel tube, and the 3/4 thread on the top of the pH electrode is connected to the stainless steel 3/4 thread with a raw material tape. Make sure that no water enters the top of the electrode and the electrode wire.
2. Side wall installation: The manufacturer provides a 316L full stainless steel sheath with a bevel, and the pH electrode can be screwed into the sheath.
3. Pipeline installation: Connect to the pipeline through the 3/4 thread of the pH electrode.



2. Equipment instructions

2.1 Wiring instructions

	Description	Description
power supply	brown	Positive power supply (10~30V DC)
	black	For 0-10V output devices, only 24V power supply can be used
Output	green	Power negative
	blue	Positive signal

2.2Calculation method

2.2.1Current output signal conversion calculation

For example, the range is 0~14pH, 4~20mA output, when the output signal is 12mA, calculate the current pH value. The span of this pH range is 14, expressed by a 16mA current signal, 14pH/16mA=0.875pH/mA, that is, a current of 1mA represents a temperature change of 0.875. The measured value is 12mA-4mA=8mA.8mA*0.875pH/mA=7pH. 7+0=7pH, the current pH value is 7.

2.2.2 Voltage output signal conversion calculation

For example, the range is 0~14pH, 0-10V output, when the output signal is 5V, calculate the current pH value. The span of this pH range is 14, expressed by a 10V voltage signal, 14pH/10V=1.4pH/V, that is, a voltage of 1V represents a pH change of 1.4. The measured value is 5V-0V=5V, 5V*1.4 pH/V=7pH. 7+0=7 pH, the current pH value is 7.

3. Precautions and maintenance

◆ The equipment itself generally does not require routine maintenance. When there is an obvious failure, please do not open it and repair it yourself, and contact us as soon as possible!

◆ The glass bulb at the front of the electrode should not be in contact with hard objects. Any damage or grazing will cause the electrode to fail.

◆ Before measurement, the bubbles in the electrode glass bulb should be shaken off, otherwise it will affect the measurement. During measurement, the electrode should be agitated in the measured solution and placed still to speed up the response.

◆ Use deionized water to clean the electrodes before and after the measurement to ensure accuracy.

◆ During the period of non-use, the electrode should be stored in 3mol/L potassium chloride solution (3M KCl). Drying the pH electrode for a long time or soaking it in distilled water will shorten the service life of the electrode.

◆ The electrode life cycle is about one year, and the new electrode should be replaced in time after aging.

◆The equipment should be calibrated before each use. For long-term use, it is recommended to calibrate once every 3 months. The calibration frequency should be properly adjusted according to different application conditions (the degree of dirt in the application, the deposition of chemical substances, etc.).