ANDERSON EUROTECH
VALVES AND INSTRUMENTS

AE RESIDUAL CHLORINE SENSOR

Products and Solutions

To Measure, Monitor and Control

Flow | Pressure | Level | Temperature | Analytical

For The Process Industries

Datasheet

Residual Chlorine Sensor
AE-ADI7000

This residual chlorine sensor is a three-electrode constant potential current measurement sensor that can be used to measure the concentration of residual chlorine, chlorine dioxide (high purity), ozone and other disinfectants. The electrode has a built-in ARM processor and efficient filtering algorithm, which can effectively avoid noise interference. It has an RS485 interface for easy access to computers and network monitoring systems. Widely used in tap water factory water, pipe network, secondary water supply, terminals, swimming pools and other scenarios.

Applications

- Tap water factory water
- Pipe network
- Secondary water supply
- Terminals
- Swimming pools

Residual Chlorine Sensor

Features

- No reagent consumption and pollutant emissions
- With membrane-less design, no need to replace the membrane head and add electrolyte
- Three-electrode design ensures zero-point stability and high sensitivity
- Built-in high-precision sampling circuit makes the sensor linear
- When the ph changes little, it can be accurately compared with the dpd measurement method

Principle

The film-free digital disinfectant sensor consists of two platinum electrodes and a silver chloride electrode forming a three-electrode measurement system. The electrodes have a built-in high-precision potentiostat, which can maintain the stability of the working electrode potential. Disinfectant components such as hypochlorous acid are oxidized at the working electrode. The reduction reaction produces an electric current that follows Faraday's law, thereby measuring the

disinfectant concentration.

Parameters

Measured variables	Residual chlorine, chlorine dioxide (high purity), ozone, etc.
Measuring range	(0~5)mg/L (standard),(0~20)mg/L
Accuracy	±5% (DPD comparison error ±10% or ±0.05mg/L, whichever is greater)
Sensitivity	0.001mg/L
Temperature compensation	NTC 10K
Communication	RS485 interface，Modbus-RTU protocol
Power supply	(9~24)VDC
Power consumption	≤0.5W
Electrode interface	Aviation plug
Medium temperature	(0～50)℃
Process pressure	≤0.1MPa
Water flow rate	(0.5~1)L/min(And the flow rate needs to be kept stable)
Cable length	2m(standard), other lengths can be customized

Wiring

Please carefully follow the instructions for wiring the electrodes, otherwise the electrodes may be damaged. The wiring method of the electrodes is shown in the following table:

Color	Description
Red	Power+
Black	Power-
Green	485A
Yellow	485B

Dimension

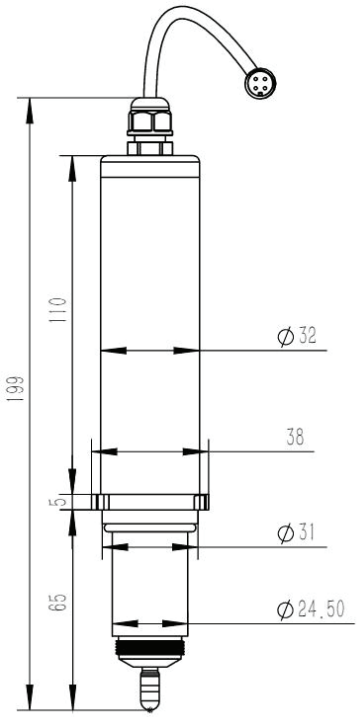


Figure 1 Electrode dimensions (unit: mm)

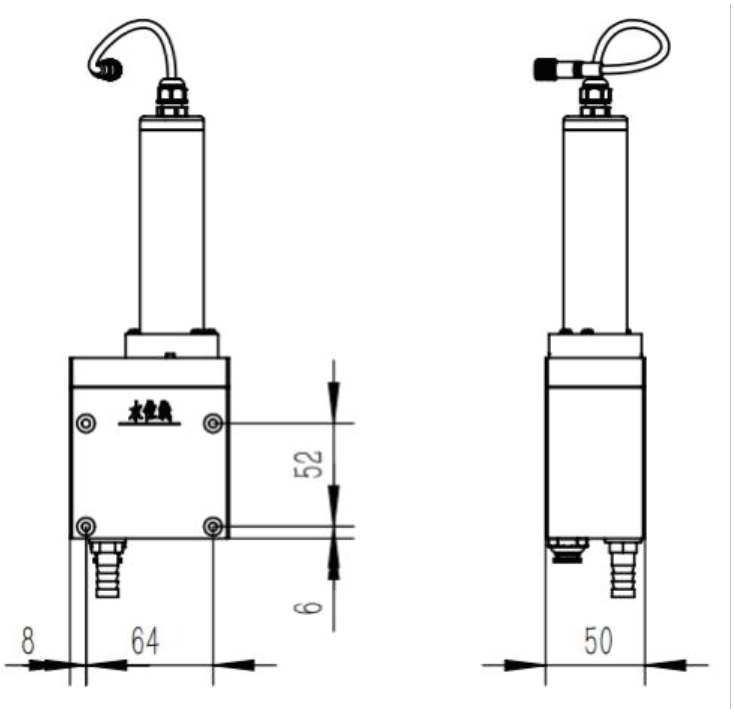
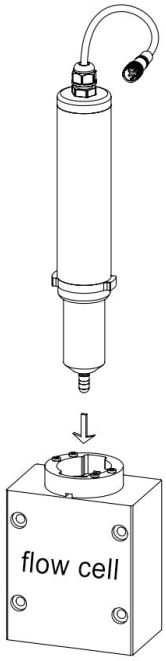


Figure 2 Dimensions of flow cell (unit: mm)

Installation

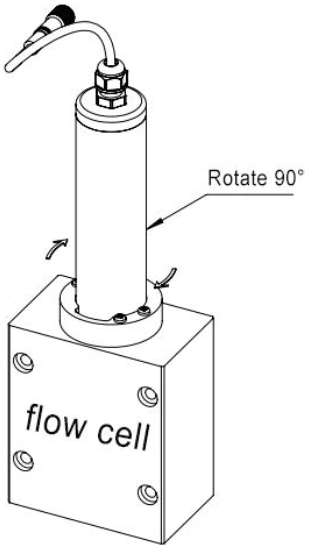
It is recommended to install the residual chlorine electrode in the flow-through type. The installation steps are as follows:

(1) Insert the electrode into the flow cell (note that the size of the notch on both sides of the installation ring is different).



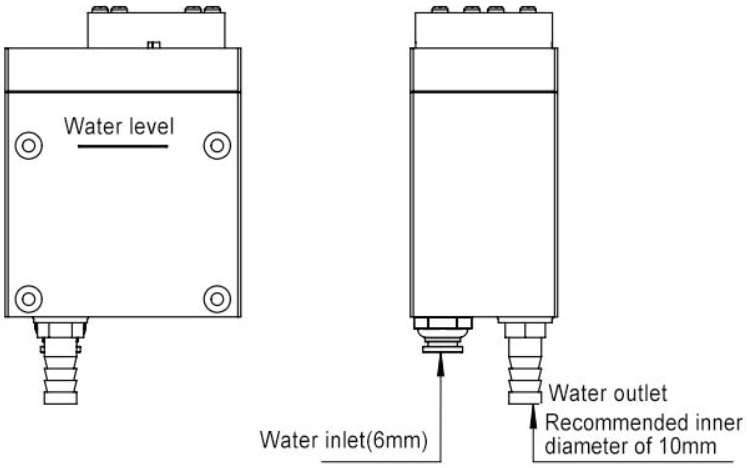
Inserting electrodes

(2) While pressing the electrode downward, rotate it 90 degrees clockwise to secure it in the slot.

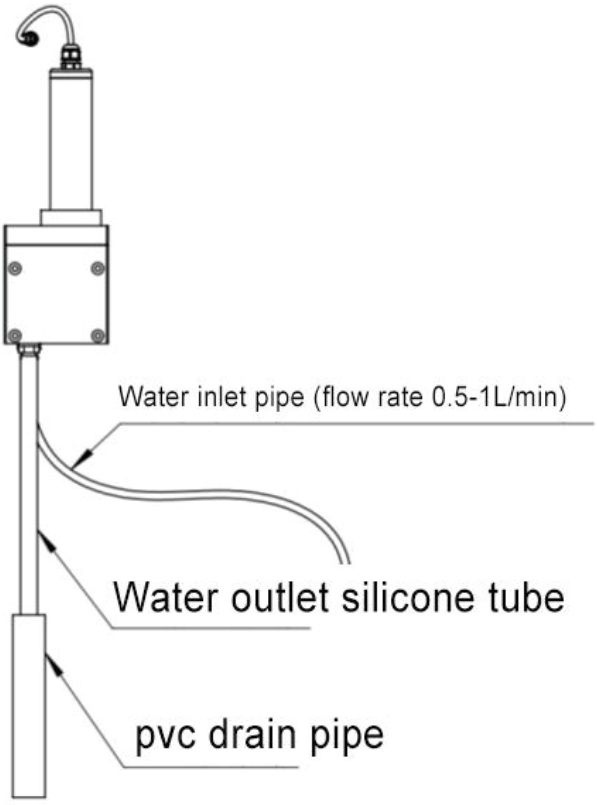


Fixed electrode

Recommended installation method:



Water inlet and outlet (unit: mm)



Recommended installation diagram

AE-ADI7000 RESIDUAL CHLORINE SENSOR

Ordering code

AE-ADI7000-WB-1-A-B-02-ND-P3								Description
AE-ADI7000	-	-	-	-	-	-	-	
Measurement Range	WB							0-5mg/L
	WC							0-20mg/L
Temperature Compensation Type		1						NTC 10K
Output			A					RS485
Power Supply				B				12VDC
				X				Other
Cable Length					02			2m
					XX			Other
Housing Material						ND		Polyoxymethylene
Accessories(Optional)							P3	Flow Cell

Notes:
Pressure Resistance: ⩽0.1MPa
Temperature Range: (0-50)° C
Measurable Parameters: Residual Chlorine, Chlorine Dioxide (High Purity), Ozone
Water Sample Flow Rate: > 400ml/min, and the flow rate must be kept stable
Accuracy: ±3% (with DPD comparison error ±10% or ±0.05mg/L, whichever is greater)
When power supply is 12VDC: 9-24VDC, Power: 0.5W

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