CL01
Industrial CL Transmitter User Manual(Type 485)

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1. product description

This product is a device for measuring the concentration of residual chlorine in water (hypochlorous acid, hypochlorite concentration). The use of a three-electrode system has the advantages of high measurement accuracy, long working life and no frequent calibration. This product is suitable for automatic control dosing of circulating water, chlorination control of swimming pools, and accurate measurement of residual chlorine content in aqueous solutions in drinking water treatment plants, drinking water distribution networks, swimming pools, and hospital wastewater.

1.1 Features

- CL The measuring range is 0-20mg/L, the resolution is 0.01mg/L。
- Adopt advanced non-membrane constant voltage sensor, no need to replace diaphragm and medicine。
- RS485 communication interface: MODBUS RTU communication protocol can be easily connected to the computer for monitoring and communication.
- The ModBus communication address can be set, and the baud rate can be modified.
- 3/4 upper and lower installation thread design, easy to install;
- The equipment can be powered by a wide voltage of 10~30V DC.

1.2 Equipment technical parameters

powered by	DC 10~30V	
Power consumption	To be determined	
output signal	Current	4~20mA
	Voltage	0~5V/0~10V
CL concentration	0-20mg/L, resolution 0.01mg/L	
Residual chlorine	5%	
Repeatability error	±0.03mg/L	
Response time	<60s	
Equipment working conditions	Environment temperature: 0-60℃ Relative humidity: <85%	
Electrode applicable	0~50℃	
Electrode withstand	0.6MPa	

Electrode wire length	Default 5m (10m, 15m, 20m can be customized)
Electrode life cycle	1 year

1.3 product model

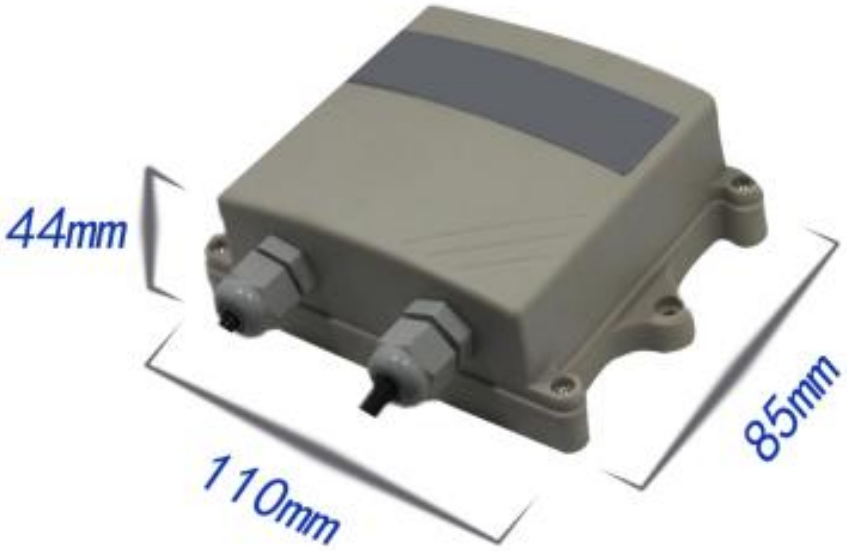
CL01-					Industrial CL transmitter
	I20-				4-20mA current output
	V05-				0-5V voltage output
	V20-				0-10V voltage output
		2-			Wall-mounted king-shaped shell
			20-		The range is 20mg/L
				OLED	With OLED display function

1.4 Product List

◆Industrial CL transmitter 1
◆1 CL electrode
◆Certificate of conformity, warranty card, etc.
◆2 expansion plugs, 2 self-tapping

1.5 Equipment size

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



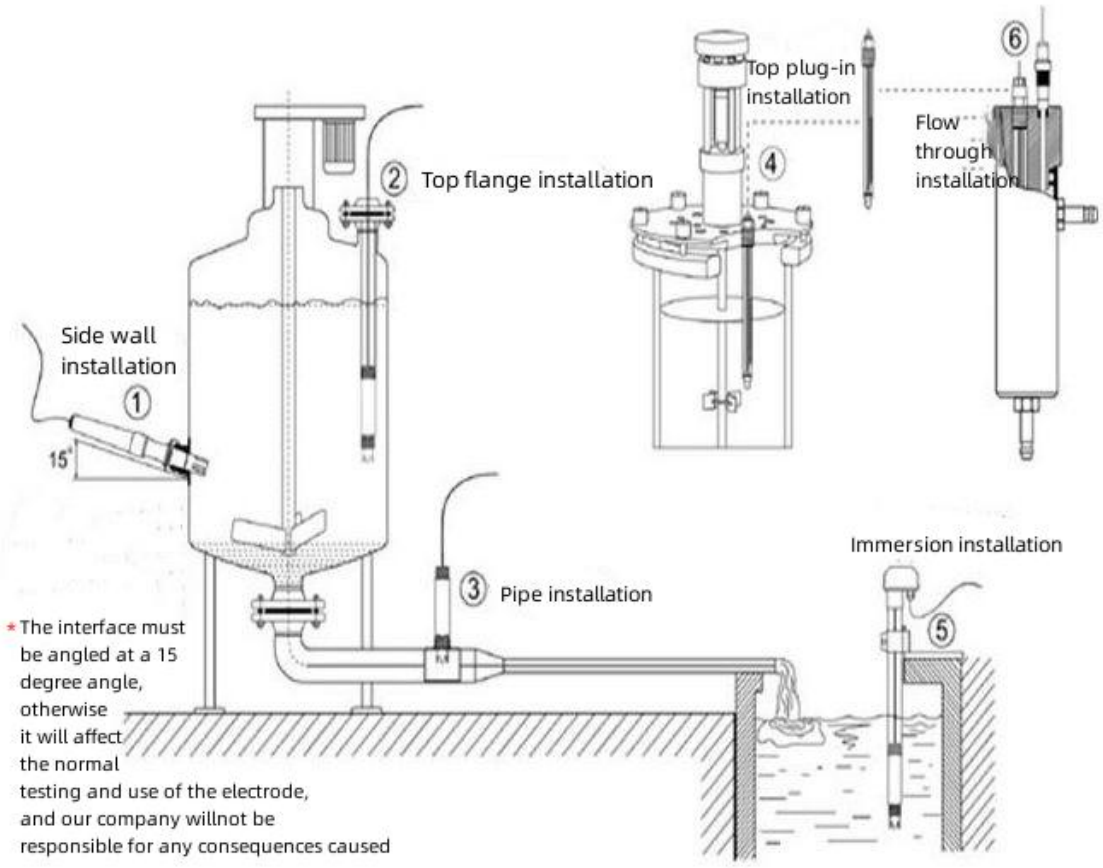
1.6 Electrode size and installation

1.6.1Electrode type and size

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

1.6.2 Electrode installation

1. Submerged installation: the lead wire of CL electrode passes through the stainless steel tube, and the 3/4 thread on the top of the CL 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 slope, and the CL electrode can be screwed into the sheath.
3. Pipeline installation: Connect to the pipeline through the CL electrode 3/4 thread.



2. Equipment instructions

2.1 Wiring instructions

	instruction	instruction
power supply	Brown	V+（10~30V DC）
	black	V-
communic ation	green	OUT+
	blue	OUT-

2.2 Calculation method

2.2.1Current output signal conversion calculation

For example, the range is 0~20mg/L, 4~20mA output, when the output signal is 12mA, calculate the current CL concentration value. The span of this CL range is 20, expressed by a 16mA current signal, 20mg/16mA=1.25mg/mA, that is, a current of 1mA represents a CL concentration change of 1.25. The measured value is 12mA-4mA=8mA.8mA*1.25mg/mA=10mg. The current concentration of CL is 10 mg/L.

2.2.2 Voltage output signal conversion calculation

For example, the range is 0~20mg/L, 0-10V output, when the output signal is 5V, calculate the current CL concentration value. The span of the residual chlorine range is 20, expressed by a 10V voltage signal, 20mg/10V=2mg/V, that is, a voltage of 1V represents the change in CL concentration2. The measured value is 5V-0V=5V, 5V*2mg/V=10mg. 10+0=10 mg, the current CL concentration value is 10mg/L。

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!

◆ After the electrode is used, clean the electrode head with clean water and cover it with a protective cover.

◆ If dirt and mineral components adhere to the electrode diaphragm, the sensitivity will decrease, and sufficient measurement may not be performed. Please make sure that the platinum ring is clean.

◆ The platinum sensing ring of a good residual chlorine electrode should always be clean and bright. If the platinum ring of the electrode becomes rough or covered by contaminants after measurement, please clean it as follows: (for reference).

Inorganic contamination: immerse the electrode in 0.1m dilute hydrochloric acid for 15 minutes, gently wipe the platinum ring of the residual chlorine electrode with a cotton swab, and then clean it with tap water.

Organic matter or oil pollution: Immerse the electrode in tap water with a small amount of detergent, such as detergent, to thoroughly clean the sensing surface of the electrode sensor. Gently wipe the platinum ring of the electrode with a cotton swab, and then rinse with tap water to complete the cleaning.

If the platinum ring of the electrode has formed an oxide film, please use toothpaste or 1000-mesh fine sandpaper to properly polish the sensing surface, and then clean it with tap water. (As shown below) The platinum ring is connected to the glass. Please handle it carefully when polishing.

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