

WATER QUALITY MONITORING / DATA SHEET

SS303-02

Integrated Residual Chlorine Transmitter

An integrated RS485 transmitter for continuous residual-chlorine measurement in water. Its three-electrode, non-membrane constant-potential sensor delivers stable measurement without replacement membranes or reagents.

Overview

- Selectable 0-2, 0-10 or 0-20 mg/L measurement ranges.
- 0.01 mg/L resolution with a response time below 30 seconds.
- Wide DC 7-30 V supply with standard RS485 Modbus-RTU.
- IP68 integrated housing with NPT 3/4 connections.



Measured Residual Chlorine	Ranges 0-2 / 10 / 20 mg/L	Supply DC 7-30 V	Protection IP68
Key Functions • Three-electrode system for accuracy, stability and long service life. • Direct digital output minimizes analog signal interference. • Configurable Modbus address, baud rate, slope and offset. • Low 0.19 W power consumption for continuous online monitoring.		Applications • Automatic dosing control for circulating-water systems. • Swimming-pool chlorination control. • Drinking-water treatment and distribution networks. • Hospital wastewater and disinfection-process monitoring.	

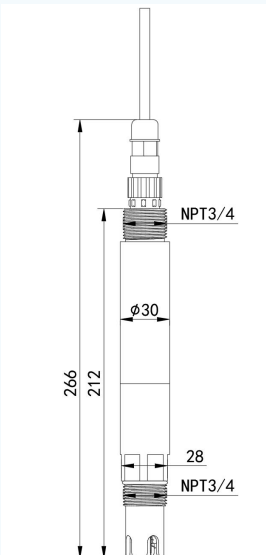
SYSTEM DATA

Technical Specifications

Item	Specification
Supply Voltage	DC 7-30 V
Power Consumption	0.19 W
Communication	RS485; Modbus-RTU; default 4800 bit/s; 1200 / 2400 / 4800 / 9600 / 19200 / 38400 / 57600 / 115200 configurable
Residual Chlorine Range	0-2 mg/L, 0-10 mg/L or 0-20 mg/L; 0.01 mg/L resolution
Measurement Error / Repeatability	±5% FS / ±0.05 mg/L
Response Time	<30 s
Operating Conditions	Element: 0-50 °C; pH 4-9; flow: 30-60 L/h with flow cell
Protection / Pressure	IP68 / 0.6 MPa
Cable Length	5 m standard; other lengths customizable
Transmitter Service Cycle	Approximately 1 year

HARDWARE

Integrated Electrode and Dimensions

 Probe dimensions (mm)	Mechanical Details • Overall length: 266 mm; integrated body length: 212 mm. • Body diameter: Ø30 mm; lower opening width: 28 mm. • NPT 3/4 threaded connections at the top and lower interface. • Integrated IP68 construction with 0.6 MPa pressure resistance. • 5 m cable supplied as standard; other lengths can be specified.
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INSTALLATION

Flow-Cell Installation

Installation	Guidance
Flow cell	Use the matching flow cell and tighten the transmitter securely in the fitting.
Immersion	Keep the complete measurement end immersed in the sample.
Hydraulics	Maintain stable, bubble-free flow at 30-60 L/h for accurate measurement.
Cable Protection	Do not immerse the cable plug before it is fully connected and locked.

INTERFACES

RS485 Modbus-RTU and Wiring

Connection	Wire / Default	Details
Power positive	Brown	DC 7-30 V positive
Power negative	Black	Power negative / 0 V
RS485-A	Yellow	RS485-A communication line
RS485-B	Blue	RS485-B communication line
Serial format	8 data bits, no parity, 1 stop bit	CRC check; 4800 bit/s default
Device address	0x01 default	1-254 configurable

REGISTERS

Key Modbus Registers

Register	Value	Description
0x0000	Residual chlorine	16-bit unsigned integer; actual value ×100 in mg/L
0x0020	Cleaning interval	1-720 h; default 4 h
0x0021	Cleaning duration	1-300 s; default 40 s
0x0022	Cleaning mode	0 off; 1 automatic; 2 immediate manual
0x1010-0x1011	Coefficient A	Floating-point slope coefficient
0x1012-0x1013	Offset B	Floating-point offset; actual value ×100
0x07D0-0x07D1	Address / baud	Device address and baud-rate selection

MAINTENANCE

Calibration and Electrode Care

Item	Guidance
Site calibration	Adjust slope A and offset B for the process water composition, flow and installation conditions.
After use	Rinse the electrode head with clean water and refit the protective cap.
Flow condition	Keep liquid moving uniformly and prevent bubbles from attaching to the measurement end.
Passivation	After more than three days without use, if response is abnormal, carefully polish the metal ring with 1000-grit or finer abrasive paper.
Service life	The electrode service cycle is approximately one year; replace it when aging affects response or accuracy.

Chemical compatibility note: strong acids, strong alkalis, strong oxidizing or reducing media, hydrofluoric acid, sulfides, bromides, iodides and organic solvents may shorten electrode life.

CONTACT / SUPPORT

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