

SensorsX SX-CHUCA Series

Self-Cleaning UV254 COD Sensor
Industrial COD / TOC / Turbidity Sensor



0-500 / 0-1500 mg/L COD Range (B / C)	±5% COD Accuracy	RS-485 / Modbus Digital Output
IP68 Ingress Protection	DC 12-24 V, ≥1 A Power Supply	0.25 W / up to 2 W Power (idle / brushing)

Industrial Water Quality Measurement | COD / TOC / Turbidity

■ PRODUCT OVERVIEW

The SX-CHUCA Series self-cleaning COD sensor is based on the UV absorption method. It measures the absorption of 254 nm ultraviolet light by dissolved organic matter to determine the concentration of dissolved organic pollutants in water. The sensor requires no reagents and generates no chemical waste, making it a cost-effective and environmentally friendly solution. An integrated turbidity-detection light source provides automatic turbidity compensation, while the automatic cleaning brush helps maintain stable long-term performance during continuous monitoring.



■ KEY FEATURES

◆ No reagents required; pollution-free; more economical and environmentally friendly	◆ Measures COD, TOC, turbidity, and temperature
◆ Automatic turbidity compensation for reliable measurement performance	◆ Equipped with self-cleaning brush to prevent biofouling, extending maintenance interval
◆ Built-in calibration parameters for convenient field use and recalibration	

■ TYPICAL APPLICATIONS

- COD / TOC and turbidity monitoring in wastewater treatment
- Industrial effluent monitoring
- Surface water quality monitoring

■ PERFORMANCE SPECIFICATIONS

Parameter	SX-CHUCA-1	SX-CHUCA-2
Measurement		
Measurement Principle	UV absorption method	UV absorption method
COD Range	0-500 mg/L	0-1,500 mg/L
TOC Range	0-180 mg/L	0-600 mg/L
Turbidity Range	0-300 NTU	0-500 NTU
Accuracy		
COD Accuracy	±5%	±5%
Resolution	0.01 mg/L	0.01 mg/L

※ The technical specifications above are based on laboratory standard-solution conditions.

■ ELECTRICAL SPECIFICATIONS

Parameter	SX-CHUCA-1	SX-CHUCA-2
Digital Communication		
Digital Interface	RS-485	RS-485
Communication Protocol	Modbus	Modbus
Power		
Power Consumption	0.25 W (idle) / 0.8 W (while brushing)	0.25 W (idle) / 2 W (while brushing)
Power Supply	DC 12-24 V, ≥1 A	DC 12-24 V, ≥1 A

■ ENVIRONMENTAL SPECIFICATIONS

Parameter	SX-CHUCA-1	SX-CHUCA-2
Temperature		
Operating Temperature Range	0-50 °C (32-122 °F)	0-50 °C (32-122 °F)
Mechanical & Environmental		
Ingress Protection	IP68	IP68
Dimensions	Φ50 mm × 179 mm (Φ1.97 in × 7.05 in)	Φ50 mm × 179 mm (Φ1.97 in × 7.05 in)
Cable Length	10 m (32.8 ft) default, customizable	10 m (32.8 ft) default, customizable
Housing Material	316L Stainless Steel; titanium alloy available upon request	316L Stainless Steel; titanium alloy available upon request

■ COMMUNICATION PROTOCOLS

Digital Interface	RS-485
Communication Protocol	Modbus

■ ORDERING INFORMATION

Complete model number reference: **SX-CHUCA-1111**

Measurement Range

1	0-500 mg/L
2	0-1,500 mg/L

Accuracy

1	±5%
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TOC Measurement Range

1	0-180 mg/L (paired with COD range 0–500 mg/L)
2	0-600 mg/L (paired with COD range 0–1,500 mg/L)

Turbidity Measurement Range

1	0-300 NTU (paired with COD range 0–500 mg/L)
2	0-500 NTU (paired with COD range 0–1,500 mg/L)

Customized

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