

SensorsX SX-CHUEA Series

Self-Cleaning UV 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	0.1 W / up to 2 W Power (idle / brushing)

Industrial Water Quality Measurement | COD / TOC / Turbidity

■ PRODUCT OVERVIEW

The SX-CHUEA Series self-cleaning COD sensor is based on the UV absorption method. It requires no reagents and generates no chemical waste, making it a cost-effective and environmentally friendly solution. Building on extensive application experience, the sensor features an all-metal structure and a compact form factor. The automatic cleaning device helps reduce biofouling, while automatic turbidity compensation supports stable long-term performance during online water-quality monitoring.



■ KEY FEATURES

◆ No reagents required; pollution-free and environmentally friendly; outstanding value for money ◆ Automatic turbidity compensation for reliable measurement performance	◆ Measures COD, TOC, turbidity, and temperature ◆ 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-CHUEA-1	SX-CHUEA-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	0-500 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-CHUEA-1	SX-CHUEA-2
Digital Communication		
Digital Interface	RS-485	RS-485
Communication Protocol	Modbus	Modbus
Power		
Power Consumption	0.1 W (idle) / 0.8 W (while brushing)	0.1 W (idle) / 2 W (while brushing)
Power Supply	DC 12-24 V, ≥1 A	DC 12-24 V, ≥1 A

■ ENVIRONMENTAL SPECIFICATIONS

Parameter	SX-CHUEA-1	SX-CHUEA-2
Temperature		
Operating Temperature Range	0-50 °C (32-122 °F)	0-50 °C (32-122 °F)
Mechanical & Environmental		
Ingress Protection	IP68	IP68
Dimensions	Φ46 mm × 176 mm (Φ1.81 in × 6.93 in)	Φ46 mm × 176 mm (Φ1.81 in × 6.93 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-CHUEA-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	0-500 NTU
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Customized

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