

SensorsX SX-CSNCA Series

Self-Cleaning Suspended Solids Sensor
Industrial Suspended Solids / Sludge Concentration Sensor



0.5-4,000 mg/L Measurement Range	±5% Accuracy	RS-485 / Modbus Digital Output
IP68 Ingress Protection	DC 9-24 V, >500 mA Power Supply	0.2 / 0.6 W Power (idle / brushing)

Industrial Water Quality Measurement | Suspended Solids / Sludge Concentration

■ PRODUCT OVERVIEW

The SX-CSNCA Series self-cleaning suspended solids concentration sensor uses an infrared scattering method with an infrared LED light source and adaptive software algorithm to reduce ambient light interference. Its sapphire optical window structure provides high repeatability and stability. The sensor requires no reagents and generates no chemical waste. The integrated self-cleaning brush reduces bubble formation and fouling-related measurement interference, extending maintenance intervals during long-term online monitoring.



■ KEY FEATURES

◆ Digital sensor with RS-485 output, standard Modbus protocol	◆ Uses infrared scattered-light detection technology with high repeatability and stability
◆ Sapphire optical window with customized optical filter, resistant to interference from ambient light and sample color	◆ Equipped with self-cleaning brush to prevent microbial fouling, extending maintenance interval
◆ Built-in calibration parameters for convenient field use and recalibration	

■ TYPICAL APPLICATIONS

- Suspended solids / sludge concentration monitoring in wastewater treatment
- Industrial process water monitoring

■ PERFORMANCE SPECIFICATIONS

Measurement	
Product Type	Suspended Solids (Sludge Concentration) Sensor
Measurement Principle	Infrared scattering method
Measurement Range	0.5-4,000 mg/L (0-15,000 mg/L optional)
Accuracy	
Accuracy	±5%
Resolution	0.1 mg/L
Calibration	
Calibration	1-point or 2-point calibration

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

■ ELECTRICAL SPECIFICATIONS

Digital Communication	
Digital Interface	RS-485
Communication Protocol	Modbus
Power	
Power Consumption	0.2 W (idle) / 0.6 W (while brushing)
Power Supply	DC 9-24 V, >500 mA

■ ENVIRONMENTAL SPECIFICATIONS

Temperature	
Operating Temperature Range	0-50 °C (32-122 °F)
Mechanical & Environmental	
Maximum Pressure	3 bar (43.5 psi)
Ingress Protection	IP68
Dimensions	Φ36 mm × 198.2 mm (Φ1.42 in × 7.80 in)
Cable Length	10 m (32.8 ft) default, customizable
Housing Material	Titanium Alloy

■ COMMUNICATION PROTOCOLS

Digital Interface	RS-485
Communication Protocol	Modbus

■ ORDERING INFORMATION

Complete model number reference: **SX-CSNCA-11**

Measurement Range	
1	0.5-4,000 mg/L
2	0-15,000 mg/L

Accuracy	
1	±5%

Customized	
D	Customized — specify requirements when ordering