

SensorsX SX-CSNDA Series

Self-Cleaning Sludge Concentration Sensor
Industrial Sludge Concentration Sensor



0-50,000 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 | Sludge Concentration

■ PRODUCT OVERVIEW

The SX-CSNDA Series self-cleaning suspended solids (SS) sensor uses ISO 7027-compliant dual infrared scattering technology to measure sludge concentration. An adaptive software algorithm minimizes interference from ambient light, while the sapphire optical window 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 ISO 7027-compliant dual infrared scattering technology
◆ Sapphire optical window with customized optical filter, resistant to ambient light and sample color interference	◆ Equipped with self-cleaning brush to prevent microbial fouling, extending maintenance interval
◆ Built-in calibration parameters for convenient field use and recalibration	

■ TYPICAL APPLICATIONS

- Sludge concentration monitoring in wastewater treatment plants
- Industrial process water monitoring

■ PERFORMANCE SPECIFICATIONS

Measurement	
Product Type	Sludge Concentration (SS) Sensor (Large Range)
Measurement Principle	Infrared scattering method
Measurement Range	0-50,000 mg/L
Accuracy	
Accuracy	±5% (depends on the homogeneity of the activated sludge)
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	Φ55 mm × 214 mm (Φ2.17 in × 8.43 in)
Cable Length	10 m (32.8 ft) default, customizable
Housing Material	POM + 316L

■ COMMUNICATION PROTOCOLS

Digital Interface	RS-485
Communication Protocol	Modbus

■ ORDERING INFORMATION

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

Measurement Range

1	0-50,000 mg/L
----------	---------------

Accuracy

1	±5%
----------	-----

Customized

D	Customized — specify requirements when ordering
----------	---