

SensorsX SX-CNLCA Series

Self-Cleaning NH₄-N Ammonium Sensor
Industrial Ammonia Nitrogen Sensor



0-100 mg/L NH ₄ -N Range	±10% or ±0.5 mg/L NH ₄ -N Accuracy	4-10 pH pH Range
IP68 Ingress Protection	DC 9-24 V, ≥1 A Power Supply	0.1 / 1 W Power (idle / brushing)

Industrial Water Quality Measurement | Ammonia Nitrogen

■ PRODUCT OVERVIEW

The SX-CNLCA Series online ammonia-nitrogen sensor requires no reagents and generates no chemical waste, enabling real-time online monitoring. It is equipped as standard with an ammonium-ion electrode, a pH electrode, and a reference electrode, with an optional potassium-ion electrode. During ammonia-nitrogen measurement, automatic pH and temperature compensation helps improve measurement accuracy. The sensor can be installed directly by immersion and provides a cost-effective, convenient alternative to traditional ammonia-nitrogen analyzers. An integrated self-cleaning brush helps prevent microbial fouling, extends maintenance intervals, and improves operational reliability.



■ KEY FEATURES

◆ Digital sensor with RS-485 output, Modbus protocol	◆ No reagents required; no chemical waste; cost-effective operation
◆ Automatic compensation for potassium ions, pH, and temperature; potassium-ion compensation is optional	◆ Equipped with self-cleaning brush to prevent microbial fouling, extending maintenance interval
◆ Built-in calibration parameters for convenient field use and recalibration	

■ TYPICAL APPLICATIONS

- Real-time online ammonia-nitrogen monitoring in water and wastewater treatment

■ PERFORMANCE SPECIFICATIONS

Measurement	
Product Type	Ammonia-Nitrogen Sensor (with brush)
Measurement Principle	Ion-selective electrode method
NH ₄ -N (Ammonia Nitrogen) Range	0-100 mg/L (0-1,000 mg/L optional)
pH Measurement Range	4-10 pH
Accuracy	
NH ₄ -N Accuracy	±10% or ±0.5 mg/L (whichever is greater)
Resolution	0.01 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	0.1 W (idle) / 1 W (while brushing)
Power Supply	DC 9-24 V, ≥1 A

■ ENVIRONMENTAL SPECIFICATIONS

Temperature	
Operating Temperature Range	0-50 °C (32-122 °F)
Mechanical & Environmental	
Ingress Protection	IP68
Dimensions	Φ64 mm × 271 mm, with protective cover (Φ2.52 in × 10.67 in)
Cable Length	10 m (32.8 ft) default, customizable
Housing Material	POM

■ COMMUNICATION PROTOCOLS

Digital Interface	RS-485
Communication Protocol	Modbus

■ ORDERING INFORMATION

Complete model number reference: **SX-CNLCA-111**

Measurement Range

1	0-100 mg/L
2	0-1,000 mg/L

Accuracy

1	±10% or ±0.5 mg/L (whichever is greater)
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pH Measurement Range

1	4-10 pH
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Customized

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