

SensorsX SX-CTNNA Series

Online Turbidity Sensor
Industrial Turbidity Sensor



0.1-4,000 NTU Measurement Range	±5% or 0.3 NTU Accuracy	RS-485 / Modbus Digital Output
IP68 Ingress Protection	DC 5-24 V, >50 mA Power Supply	0.1 W Power Consumption

Industrial Water Quality Measurement | Turbidity

■ PRODUCT OVERVIEW

The SX-CTNNA Series online turbidity sensor uses the 90° scattering method compliant with ISO 7027. A sapphire optical window with a customized optical filter provides stable measurement performance with resistance to ambient light interference and sample-color effects. Its compact design enables easy installation and maintenance, making it suitable for field water-quality monitoring applications.



■ KEY FEATURES

◆ Digital sensor with RS-485 output, standard Modbus protocol	◆ No electrolyte solution required; high resistance to interference ; reduced recalibration requirements
◆ 90° scattered-light principle, compliant with the ISO 7027 international standard	◆ Sapphire optical window with custom filter, resistant to interference from ambient light and sample color
◆ Built-in calibration parameters, factory-calibrated for quick installation and commissioning	

■ TYPICAL APPLICATIONS

- Food & Beverage
- Metallurgy
- Pharmaceutical
- Agriculture
- Power Generation

■ PERFORMANCE SPECIFICATIONS

Measurement	
Product Type	Turbidity Sensor (Brushless)
Measurement Principle	90° scattering method
Measurement Range	0.1-1,000 NTU or 0.1-4,000 NTU
Accuracy	
Accuracy	±5% or 0.3 NTU (whichever is greater)
Calibration	
Calibration	0-point, 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
Power Supply	DC 5-24 V, current > 50 mA

■ ENVIRONMENTAL SPECIFICATIONS

Temperature	
Operating Temperature Range	0-50 °C (32-122 °F)
Mechanical & Environmental	
Maximum Pressure	6 bar (87.0 psi)
Ingress Protection	IP68
Mounting	M22×1.5 (optional adapter to NPT 3/4 thread), immersion mounting
Dimensions	Φ22 mm × 175.5 mm (Φ0.87 in × 6.91 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-CTNNA-11**

Measurement Range	
1	0.1-1,000 NTU
2	0.1-4,000 NTU

Accuracy	
1	±5% or 0.3 NTU (whichever is greater)

Customized	
D	Customized — specify requirements when ordering