

COD WATER QUALITY MONITORING / DATA SHEET

SS306-01-ANALOG

Self-Cleaning COD Transmitter

Analog-output COD transmitter for continuous UV-absorption measurement, automatic cleaning and reliable water-quality monitoring.

Overview

- SS306-01-ANALOG measures chemical oxygen demand (COD) using dual-wavelength ultraviolet absorption without chemical reagents.
- The integrated self-cleaning system reduces biofouling, with automatic temperature and turbidity compensation for field stability.
- Measured COD data are available through selectable 4–20 mA, 0–5 V or 0–10 V analog outputs for integration with controllers and data-acquisition systems.



COD Range 0–500 mg/L	Analog Output 4–20 mA / 0–5 V / 0–10 V	Protection IP68 / IP65	Supply 9–30 VDC
Key Advantages • Reagent-free dual-wavelength UV absorption. • Integrated self-cleaning against biofouling. • Automatic turbidity and temperature compensation. • Wide 9–30 VDC supply; 0–10 V option uses 24 VDC.		Application Scenarios • Wastewater treatment. • Aquaculture water monitoring. • Environmental water-quality networks. • Industrial process-water monitoring.	

MEASUREMENT PRINCIPLE

Measurement Principle

OPTICAL MEASUREMENT

Dual-wavelength ultraviolet absorption with a modulated optical signal, automatic turbidity compensation, temperature compensation and integrated self-cleaning. The COD range is specified as 0–500 mg/L equiv. KHP.

SYSTEM DATA

Technical Specifications

Item	Specification
Power Supply	DC 9–30 V; 0–10 V output requires DC 24 V
Typical Power Consumption	≤1.5 W normal; ≤2.1 W during self-cleaning
Analog Outputs	4–20 mA, 0–5 V or 0–10 V selectable
Measurement Principle	Dual-wavelength ultraviolet absorption
COD Measurement Range	0–500 mg/L equiv. KHP
COD Measurement Accuracy	±5% FS equiv. KHP at 25 °C
COD Resolution	0.1 mg/L
Repeatability	±1% FS equiv. KHP at 25 °C
Response Time	≤20 s
Operating Conditions	Probe: 0–40 °C; enclosure: –40–60 °C, 0–95% RH non-condensing

Item	Specification
Ingress Protection	Probe IP68; enclosure IP65
Flow Velocity	<3 m/s
Probe Pressure Resistance	<0.1 MPa
Cable Length	5 m by default; custom length available
Housing Material	Corrosion-resistant plastic and stainless steel
Recommended Calibration / Maintenance	Every 3 months
Self-cleaning System Life	About 18 months; depends on cleaning frequency

ANALOG OUTPUT & WIRING

Analog Output and Wiring

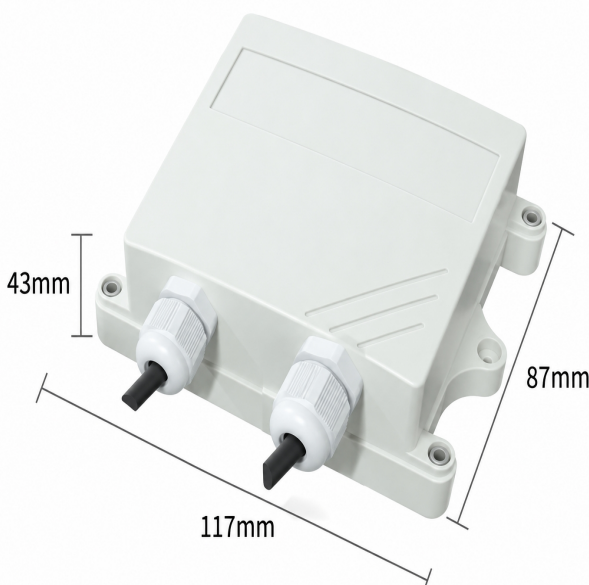
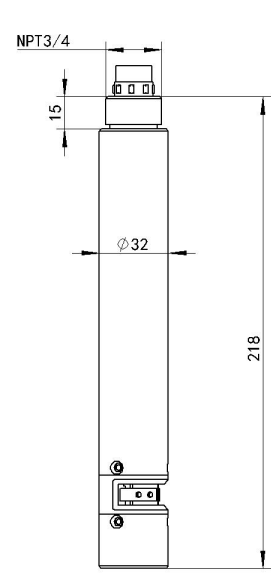
Select the output type during product selection. The transmitter maps the 0–500 mg/L COD range to 4–20 mA, 0–5 V or 0–10 V. For the 0–10 V option, use a 24 VDC supply. The four-core cable uses brown/black for power and blue/yellow-green for the analog signal.

Parameter	Source-specified setting
Output options	4–20 mA, 0–5 V, 0–10 V
Supply	9–30 VDC; 24 VDC required for 0–10 V output
Cable wiring	Brown: power +; Black: power –; Blue: analog +; Yellow/green: analog –
Conversion	0–500 mg/L COD mapped to the selected output span

MECHANICAL DATA

Dimensions and Installation

The controller enclosure is supplied in a compact wall-mount housing. The probe uses an NPT3/4 threaded connection and is designed for submerged installation.

 Controller enclosure: 117 × 87 × 43 mm max	 Probe: 218 mm length; Ø32 mm; NPT3/4
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INSTALLATION NOTE

Install the probe in water without bubbles; horizontal placement is preferred. Keep the probe no more than 2 m below the water surface and at least 0.3 m below the minimum water level. Avoid impact, excessive flow and cable tension.

COMMUNICATION

Analog Signal Path



The analog signal path provides a direct integration point for PLCs, data loggers, displays and control systems. Select the matching input range on the receiving device.

INSTALLATION & OPERATION

Installation and Maintenance Notes

- Connect a stable 9–30 VDC supply; use 24 VDC when the 0–10 V output option is selected and allow 1–3 minutes before checking the signal.
- Fix the controller enclosure with the supplied expansion plugs and screws; protect it from direct sunlight and mechanical impact.
- Keep the optical window free of bubbles, oil film and scale. Rinse with tap water and wipe only with a soft, wet cloth; do not scratch or touch the window.
- Check the self-cleaning brush regularly. Do not force the brush shaft; return the unit for moving-seal service after about 18 months, adjusted for actual cleaning frequency.
- Calibrate before use; a three-month calibration interval is recommended and may be adjusted for the application environment.
- Lock the cable connectors before placing the probe in water. If readings are unstable or abnormal, inspect and clean the measurement window first.

Analog Integration

- Select I20, V05 or V10 in the product code.
- Map the 0–500 mg/L COD range to the selected output span.
- Use 24 VDC for the 0–10 V output option.
- Use the color-coded four-core cable for power and analog signal.
- Keep the optical window free of bubbles, oil film and scale.

Service & Support

- 12-month warranty under normal use.
- Lifetime repair service.
- Support for output selection, wiring and calibration.
- Calibrate before use and normally every three months.
- Return the self-cleaning unit for service after about 18 months.

ORDERING INFORMATION

Product Selection

Code	Description
SS306-01-ANALOG	Product model
I20 / V05 / V10	Selectable analog output: 4–20 mA / 0–5 V / 0–10 V
2 / 2S	Composite or stainless-steel housing
C500	COD range 0–500 mg/L equiv. KHP
5M	5 m cable, default length
S18	Self-cleaning system, about 18-month service life

CONTACT / SUPPORT

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