

# SMR44

## RS485 Communication Chemical Oxygen Demand (COD) Analyzer



**The Chemical Oxygen Demand (COD) Analyzer** is connected directly via RS485 communication interface, providing simple, reliable, cost-saving process data with remote monitoring, calibration, configuration and diagnostics capabilities. Housing in a robust IP68 proof enclosure, 1500 N tensile strength Kevlar reinforced cable, up to 1.2 km digital data transmission, the transmitter is ideally used in water/wastewater industry.

### Typical Applications

Drinking water, surface water, industry, water treatment, wastewater

### Measurement Method

The analyzer consists of a light source, a sample cell, and a light detector (photo detector). Incident light is absorbed by the sample, and the light is measured by the detector. The value depends on the amount of absorbance in the sample. The transmitter uses a long life LED and the 180° light method in accordance with International standard to assure accurate measurement values. An automated mechanical wiper is to remain surface clean and remove air bubbles of the optical window in order to maximize the accuracy and minimize the maintenance requirement.

### Advantages

- Robust IP68 Water Submersible Enclosure, Solution Without Cabinet
- On-line Realtime Measurement
- Ultra Low Power Consumption, Ideal for Outdoor Applications
- High Reliability, Drift Free
- Surge Protection for Power and RS485 Communication
- 1.2 Km RS485 Digital Communication, Minimize Cabling and Engineering Cost
- Software Configuration Calibration and Data Monitoring
- Standard Modbus RTU Protocol, Direct Connected with PLC, HMI, Eliminate I/O Module Cost
- Sapphire Glass Windows to Prevent Scratch
- Innovative Nano Coating to Remain Window Clean
- Optional Auto Cleaning Wiper, Almost No Maintenance
- Onboard memory allowing users to easily calibrate and configure sensor at lab and distribute to various fields sites

## Specifications

- ▶ General
- Output Signal: RS485 (Modbus RTU protocol), 19,200 bps, 8 data bits, no parity, 1 stop bit; 4~20 mA (optional)
- Data Resolution: 16 bits (0.001% FS)
- Surge Protection: 4000 V DC
- Power: 3.6~12 V DC ±10%, 45 mA
- Protection: polarity, overload, short circuit
- Safety: CE, FCC

Measurement range	SMR44-1: 0~100 mg/L SMR44-2: 0~1,000 mg/L SMR44-3: 0~2,500 mg/L SMR44-4: 0~5,000 mg/L SMR44-5: 0~10,000 mg/L
Accuracy	±5% in standard solution
Resolution	0.01 mg/L
Repeatability	±3% in standard solution
Light source	LED 254 nm
Beam angle	180°
Light path length	1 mm, 2 mm, 5 mm, 10 mm, 35 mm
Process flow rate	Max. 3m/sec
Operation pressure	Max. 10 Kg/cm <sup>2</sup>
Operating temperature	0 ~ 85 °C
Response time	<1 min
Protection	IP68
Turbidity (or total suspended solids) measurement range	SMR44-1: 0~100 NTU (or 0~200 mg/L) SMR44-2: 0~1,000 NTU (or 0~2,000 mg/L) SMR44-3: 0~2,000 NTU (or 0~5,000 mg/L) SMR44-4: 0~4,000 NTU (or 0~10,000 mg/L) SMR44-5: 0~10,000 NTU (or 0~20,000 mg/L)
Turbidity (or total suspended solids) accuracy	±5%FS
Housing	SS316L; Titanium
Dimension	Φ 39 X 320 mm
Weight	analyzer: approx. 1 Kg; Cable: 80g/m

## Ordering

Type	Refer to the table	SMR44 - □ - □ - □ - □ - □ - □
Sensor		
Turbidity	2	
Total Suspended Solids (TSS)	3	
Cable Length (m)		
0	000	
3	003	
5	005	
10	010	
Cable Type		
None	0	
PUR	3	
Housing		
SS316L	1	
Titanium	2	
Wiper		
None	0	
Built-in	1	

## Optionals



Order	Description
PRO	Wireless Controller
ECO	Wireless Logger
ARK	Water Quality Monitoring Buoy
FLO	Open Channel Flow Meter
PRV	Wireless PRV Controller
AWS	Automatic Water Sampler
HMI	Multiparameter Controller
PAD	Handheld Meter
SFC	Flow Chamber
CAB06	Configuration cable (1.5 m, USB interface)
CAB12	2 ports RS485 cable
CAB16	4 ports RS485 cable
PIM02	Pipe mounting
SAO01	Analog output module(4~20 mA, 1 channel)



RoHS



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