

SMR46

RS485 Communication Biochemical Oxygen Demand (BOD) Analyzer



The Biochemical Oxygen Demand (BOD) 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%, 20 mA
- Protection: polarity, overload, short circuit
- Safety: CE, FCC

Measurement range	SMR46-1: 0~25 mg/L SMR46-2: 0~100 mg/L SMR46-3: 0~500 mg/L SMR46-4: 0~1,000 mg/L SMR46-5: 0~5,000 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 Kgf/cm ²
Operating temperature	0 ~ 85 °C
Response time	<1 min
Protection	IP68
Turbidity (or total suspended solids) measurement range	SMR46-1: 0~100 NTU (or 0~200 mg/L) SMR46-2: 0~1,000 NTU (or 0~2,000 mg/L) SMR46-3: 0~2,000 NTU (or 0~5,000 mg/L) SMR46-4: 0~4,000 NTU (or 0~10,000 mg/L) SMR46-5: 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	SMR46 - □ - □ - □ - □ - □
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

PRO	ECO	ARK	FLO	PRV	AWS	HMI	PAD	SFC	CAB06	CAB12	CAB16	PIM	SAO
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)												



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