

# SMR47 Color Analyzer

**RS485 Communication. All-in-One Compact Housing. Explosive Proof.**

The Color Analyzer is connected directly via RS485 communication interface, providing simple, reliable, cost-saving process data with remote monitoring, calibration, configuration and diagnostic 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.

## Advantages

- All-in-One Compact Housing, Built-in Transmitter and Sensors
- Robust IP68 Water Submersible Protection, Directly Installed in the Field, No Cabinet Required
- Plug & Play, On-line Realtime Measurement
- Ultra Low Power Consumption, Ideal for Outdoor Applications
- 1500 N Tensile Strength Kevlar Reinforced Cable
- Surge Protection for Power and RS485 Communication
- RS485 Digital Communication, Minimize Cabling and Engineering Cost
- Standard Modbus RTU Protocol, Direct Connected with PLC, HMI
- Sapphire Glass Windows to Prevent Scratch
- Innovative Nano Coating to Remain Window Clean
- Auto Cleaning Wiper, Less Maintenance
- Dual Beam Light and Temperature Compensation
- Turbidity Measurement and Compensation
- Onboard Memory Allowing Users Easily Calibrate and Configure Sensor at Lab and Distribute to Various Fields and Sites
- AQCFG Software Tool for Data Monitoring, Calibration, Configuration and Diagnosis
- IECEx/ATEX Ex ia IIB T5 Ga Explosive Proof Certification

## 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 utilized to remain surface clean and remove air bubbles of the optical window in order to maximize the accuracy and minimize the maintenance requirement.

## Installation

Submersible, flow through, pipe insertion



## Specifications

<b>General</b>	
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 VDC
Power	5~12 VDC, 45 mA
Protection	Polarity, Overload, Short circuit
Safety	CE, FCC
<b>Color</b>	
Measurement Range	0~ 100 Hazen (Pt/Co, APHA, PCU)(100 mm)(SMR47-1) ; 0~ 500 Hazen (Pt/Co, APHA, PCU)(20 mm)(SMR47-2) ; 0~ 2,000 Hazen (Pt/Co, APHA, PCU)(5 mm)(SMR47-3)
Accuracy	±5%±1 Hazen in standard solution
Resolution	0.01 Hazen (Pt/Co)
Repeatability	±3% Hazen in standard solution
Light Source	LED 390 nm
Beam Angle	180°
Light Path Length	5, 20, 100 mm
Process Flow Rate	Max. 3 m/s
Operation Pressure	Max. 10 Kg/cm <sup>2</sup>
Operating Temperature	0~60 °C
Response Time	1 sec
Protection	IP68
Connection	1"-11 PT; 5-pin M16 plug
Housing	SS316L; Titanium
Dimensions	ø 50X305 mm
Weight	analyzer: approx. 1 Kg; (SS316L); 0.8 Kg (Titanium); Cable: 80 g/m
<b>Turbidity</b>	
Light Source	LED 880 nm
Measurement Range	0~10 NTU (SMR47-1) ; 0~100 NTU (SMR47-2) ; 0~1,000 (SMR47-3)
Accuracy	±5% measured value
Resolution	0.01 NTU
Repeatability	±3% measured value

## Ordering Codes

### Ordering Codes

SMR47 - □ - 2 - 005 - 3 - □ - 1 - □ - □

### Measurement Range(Hazen)

0~100	1
0~500	2
0~2,000	3

### Sensor

Turbidity+Temperature

### Cable Length (m)

5

### Cable Type

PUR

### Housing

SS316L 1  
Titanium 2

### Wiper

Built-in

### Wire Connection

Bare Wire 0  
M12 Connector 1

### Explosive Proof

None 0  
Certificated 1

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