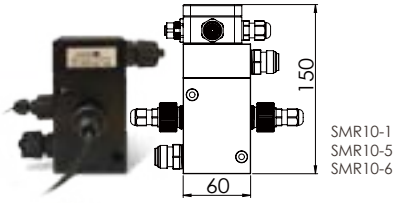
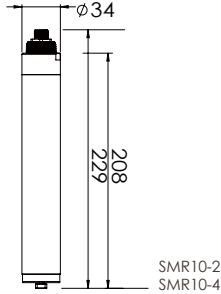


# SMR10

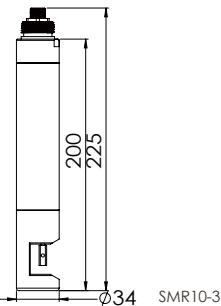
## RS485 Communication Turbidity Analyzer



SMR10-1  
SMR10-5  
SMR10-6



SMR10-2  
SMR10-4



SMR10-3

**The Turbidity 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 analyzer is ideally used in water/wastewater industry.

### Typical Applications

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

Model	Typical Application	Installation
SMR10-1, SMR10-5, SMR10-6	Drinking Water	Flow through
SMR10-2	Surface Water, Wastewater	Immersion
SMR10-3	Drinking Water, Industry	Pipe Insertion
SMR10-4	Wastewater	Immersion

### Measurement Method

The turbidity analyzer consists of a light source, a sample cell, and a light detector (photo detector). Incident light is scattered by the particles in the sample, and the scattered light is measured by the detector. The amount of scattering depends on the amount of material in the sample, the wavelength of light used and the size and composition of the suspended particles. The analyzer uses a long life near infrared LED (880 nm) and the 90° scattered light method which complies with DIN ISO 7027 or EPA method 180.1. 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
- Plug & Play, 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
- Data Resolution: 16 bits (0.001% FS)
- Surge Protection: 4000 V DC
- Power: input: 3.6~12 V DC  $\pm 10\%$ , 15 mA
- Protection: polarity, overload, short circuit
- This measuring device is a Nephelometric Turbidity Unit (NTU) according to ISO7027 (Formazin calibration solution)
- Safety: CE, FCC

Type	SMR10-1, SMR10-5, SMR10-6: Flow Chamber Type SMR10-2, SMR10-4: Immersion Type SMR10-3: Pipe Insertion
Measurement range	SMR10-1: 0~20 NTU SMR10-2: 0~100/1,000/4,000 NTU SMR10-3: 0~10/100/1,000 NTU SMR10-4: 0~100/1,000/4,000/10,000/20,000/50,000 NTU (depending on the medium) SMR10-5: 0~10/100/1,000 NTU SMR10-6: 0~2 NTU
Accuracy	$\pm 2\%$ FS (0~4,000 NTU) $\pm 5\%$ FS (4,000~50,000 NTU)
Resolution	0.001 NTU
Repeatability	$\pm 1\%$ FS
Light source	LED 880 nm
Reflection angle	90°
Color measurement	0~50/500/1,000 Hazen (Pt/Co, APHA, PCU)
Color accuracy	$\pm 3\%$ FS
Color resolution	0.01 Hazen (Pt/Co)
Process flow rate	SMR10-1, SMR10-5, SMR10-6: Max 20L/h SMR10-2, SMR10-3, SMR10-4: Max. 3 m/s
Operation pressure	Max. 10 kgf/cm <sup>2</sup>
Operating temperature	0 ~ 85 °C
Response time	3 secs
Protection	IP68
Housing	SMR10-1, SMR10-5, SMR10-6: POM SMR10-2~4: SS316L; Titanium (optional)
Dimension	SMR10-1, SMR10-5, SMR10-6: 130(W) X 150(H) X 60(D) mm SMR10-2, SMR10-4: $\phi 34$ X 229 mm SMR10-3: $\phi 34$ X 225 mm
Weight	SMR10-1, SMR10-5, SMR10-6: analyzer: approx. 350g SMR10-2~4: analyzer: approx. 500g (SS316L), approx. 400g (Titanium); Cable: 80g/m



RoHS



## Ordering

Type	Refer to the table	SMR10-□-□-□-□-□-□
Sensor	None _____ 0 Color _____ 1	
Cable Length (m)	0 _____ 000 3 _____ 003 5 _____ 005 10 _____ 010	
Cable Type	None _____ 0 PUR _____ 3	
Housing	POM (SMR10-1, SMR10-5, SMR10-6) _____ 0 SS316L (SMR10-2, SMR10-3, SMR10-4) _____ 1 Titanium (SMR10-2, SMR10-3, SMR10-4) _____ 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)

Specification and product information contained herein are subject to change without notice. Performance varies depending on hardware, software and overall system configuration. Warranty and RMA policy varies with countries, please check with your local distributors or visit [www.aquas.com.tw/en](http://www.aquas.com.tw/en)