SPS-M-Lxx Multi-Wavelength Spectrum Water Quality Sensor Datasheet

Product overview

SPS-M-Lxx multi-wavelength spectrum water quality sensor is based on the principle of ultraviolet absorption spectrum, which can measure organic matter and nitrate nitrogen in water, and has turbidity compensation function, which can effectively improve the measurement accuracy of actual water samples. It is suitable for monitoring domestic sewage, industrial wastewater, watershed, etc. Compared with conventional chemical detection, it has the characteristics of high



reliability, zero pollution and zero delay, and realizes real-time online monitoring of organic pollutants.

It can be matched with our MC series meter controller and SPS-Server cloud service to realize remote real-time monitoring of data and remote operation and maintenance of equipment.

Application

- Wastewater treatment plant effluent monitoring
- Watershed, surface water, groundwater monitoring
- Urban domestic sewage monitoring
- Industrial water monitoring

Features

- 4 wavelengths to measure, obtain more spectral information of water samples
- Optical in-situ measurement, no chemical reagent consumption, environmentally friendly
- Fast measurement, the fastest measurement cycle is 10 second
- The maintenance-free period is long, and the sensor has its own cleaning brush
- RS485 communication mode, can quickly connect the meter
- IP68 protection grade, can be used in harsh environment
- Low power consumption, can be powered by battery, convenient for equipment deployment

Principle

Four LEDs are used to identify the characteristics of the water sample and use an innovative algorithm to measure it.



Specifications

Sensor model	Sensor number	Gap	Dimension /mm (Diameter×length)	Material	Weight /kg			
SPS-M-L10-Pxx	16-12- xxxxx	10 mm	φ30×245	AISI 316L	0.9			
Note: The "x" in the Serial No. represents a number (0~9).								
Environmental parameters								
Principle			UV-Vis Spectral Absorption					
Wavelength			UV-Vis - 4 wavelengths					
Power requirements	S	DC-	DC+12 V to +24 V					
Measurement perio	d	10 ទ	10 s to 65535 s					
Operating temperature			0 to 50°C					
pressure		5 bi 40 °	5 bar (73 psi) maximum compared to air, 2 to 40 °C (35.6 to 104 °F)					
Power consumption		<2 \	<2 W					
Cleaning method		Clea	Cleaning brush					
IP rating		IP6	IP68					
Sample flow rate		<3 r	<3 m/s					
Communication interface								
Hardware interface		RS4	RS485					
Protocol		Moo	Modbus RTU					

Parameter information

Name	Sensor	Range	Resolution	Accuracy (Standard solution)				
COD	SPS-M-L10	0-500 mg/L	0.01 mg/L	±5% or ±5 mg/L				
TUR	SPS-M-L10	0-500 NTU	0.01 NTU	±5% or ±5 NTU				
Nitrate	SPS-M-L10	0-50 mg/L	0.01 mg/L	±5% or ±1 mg/L				
TOC	SPS-M-L10	0-200 mg/L	0.01 mg/L	±5% or ±2 mg/L				
BOD	SPS-M-L10	0-300 mg/L	0.01 mg/L	±5% or ±5 mg/L				
UV254	SPS-M-L10	0-400	0.01	±5% or ±5				
Temperature	SPS-M-Lxx	0-60 °C	0.0625 °C	±1 °C				
Note: The "x" in the Serial No. represents a number (0~9).								
Quality assur	ance							
Certification		CE/RoHS						
Warranty period	one year							



Interface definition

SPS-M sensor electrical connection, adopts 5-wire + shielding interface design, anticorrosion cable, standard 6 m (line length can be customized).



Dimensions



Installation

SPS-M sensor is recommended for submerged horizontal installation, as shown in the figure below.



Schematic diagram of underwater attitude

Applications

Centralized/decentralized water treatment effluent monitoring

Industry pain points

- High cost of operation and maintenance of chemical online equipment
- Traditional methods cannot provide effective operation

Solution

- Real-time monitoring of export optical sensors
- Real-time monitoring of export optical sensors





Urban-level rainwater and sewage pipe network monitoring

Industry pain points

- Misconnection of urban rain and sewage pipe network
- Sewage overflow, river pollution
- > Mixed rainwater, high treatment cost

Solution

- Pipe network construction: separation of rain and sewage
- Pipe network management: realtime monitoring, early warning

watershed monitoring

Industry pain points

- Site conditions are not conducive to frequent maintenance of equipment
- Difficulty in disposal of waste liquid from chemical equipment
- Unable to grasp sudden pollution events in real time

Solution

> Real-time monitoring by optical sensor, long maintenance cycle, no waste liquid







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