



RK500-09 Multi-parameter Water Quality Sensor



Overview

RK500-09 Multi-parameter Water Quality Sensor adopts an integrated design and can measure up to 7 parameters including temperature at the same time. You can choose DO, COD, pH, ORP, EC/Salinity, NH_4^+ , turbidity, etc. Using RS-485 output, Modbus-RTU communication protocol, data can be directly transmitted to the acquisition platform. The multi-parameter water quality sensor is equipped with an automatic cleaning device, automatic cleaning interval time and number of automatic cleaning cycles can be set to adapt to the water quality of different degrees of cleanliness. The automatic cleaning device can effectively clean the surface of the sensor, prevent the adhesion of microorganisms, and greatly reduce the maintenance cost. Each sensor is equipped with a quick-plug waterproof connector, which is easy to disassemble and assemble. The sensor protection cover at the front is used to protect the internal sensor from damage. There are slots around the protection cover, which can effectively prevent large suspended particles and biological damage to the sensor probe, while not affecting the accuracy of measurement.

Features

- Modbus/RTU communication protocol
- Automatic cleaning device
- Lower maintenance costs
- Integrated design
- Multiple parameters optional
- 7 parameters (including temperature) can be measured at the same time

Applications

- Environmental protection
- Water quality monitoring
- Aquaculture
- Clean in place (CIP)
- Sewage treatment
- Industrial wastewater treatment

Technical Parameter

Dissolved oxygen Sensor

Measuring range	0 ~ 20mg/L	
Accuracy	±0.4mg/L or ±2%	
Resolution	0.01mg/L	

Turbidity Sensor

Measuring range	0 ~ 100NTU	0 ~ 1000NTU
Accuracy	±3% or ±2NTU	±5% or ±3NTU
Resolution	0.1NTU	

EC Sensor

Measuring range	0 ~ 5000 $\mu\text{S}/\text{cm}$	0 ~ 200mS/cm
Resolution	1 $\mu\text{S}/\text{cm}$	0.1mS/cm
Accuracy	±1.5% F.S.	

Salinity Sensor

Measuring range	0 ~ 70PSU	
Resolution	0.1PSU	
Accuracy	±1.5% F.S.	



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Technical Parameter

TDS Sensor		
Measuring range	0 ~ 100.00mg/L	0 ~ 1000.0mg/L
Resolution	0.01mg/L	0.1mg/L
Accuracy	±10% or ±1mg/L	

COD Sensor		
	COD	Turbidity
Measuring range	0~200mg/L equiv. KHP	0 ~ 100NTU
	0~500mg/L equiv. KHP	0 ~ 200NTU
Accuracy(COD)	±5%F.S.	
Resolution(COD)	0.1mg/L	
Accuracy(Turbidity)	±5%F.S.	
Resolution(Turbidity)	0.1NTU	

BOD Sensor	
Measuring range	0 ~ 300mg/L
Accuracy	±5%
Resolution	0.1mg/L

pH Sensor	
Measuring range	0 ~ 14pH
Accuracy	±0.1pH
Resolution	0.01pH

ORP Sensor	
Measuring range	-1500mV ~ +1500mV
Accuracy	±6mV
Resolution	1mV

NH ₄ ⁺ Sensor		
Measuring range	0 ~ 100mg/L	0 ~ 1000mg/L
Accuracy	±10% or ±1mg/L	
Resolution	0.1mg/L	

NO ₂ ⁻ Sensor	
Measuring range	0-100mg/L
Accuracy	±5%
Resolution	0.1mg/L

NO ₃ ⁻ Sensor	
Measuring range	0-1000mg/L
Accuracy	±5%
Resolution	0.1mg/L

Chlorophyll Sensor	
Measuring range	0-400ug/L
Accuracy	±3%
Resolution	0.1mg/L



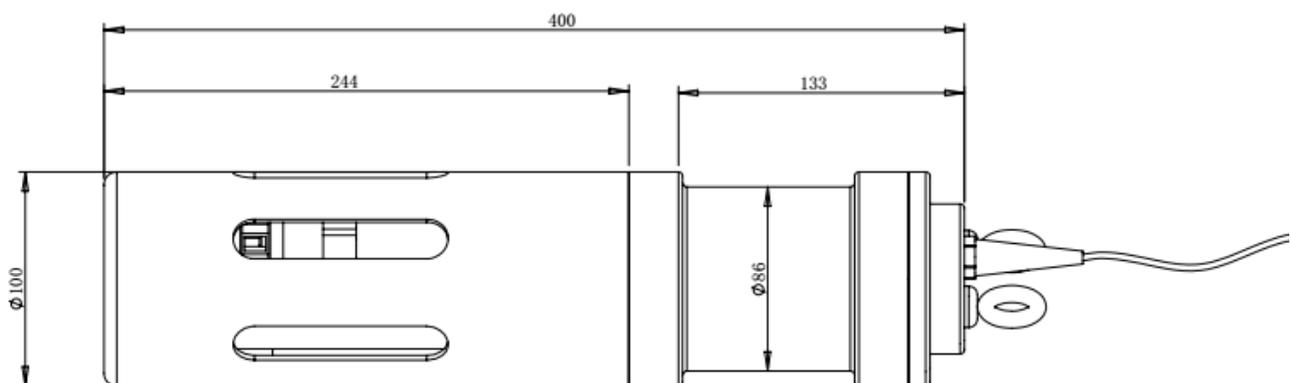
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Technical Parameter

Cyanobacteria Sensor	
Measuring range	0-300Kcells/L
Accuracy	±3%
Resolution	0.1Kcells/L
Temperature	
Measuring range	0 ~ 50℃
Accuracy	±0.3℃
Resolution	0.1℃
Other Information of Multi-parameter Sensor	
Output	RS485(Modbus/RTU)
Cleaning method	Automatic cleaning
Power consumption	5W@12V
Power supply	12VDC±5%
Installation method	Submerged installation
Shell material	POM and 316L, default POM
Cable length	5m(default), other lengths can be customized

Dimension

Unit:mm



Note: Use lifting rings or pipe threads to install the sensor to avoid direct stress on the cable. The sensor connector is M16-5 cores male waterproof connector.

Revision time	Reviser	Current Version	Remarks
20250425	Lee	V5.0	