

PSS-232031

Quad-electrode Conductivity Sensor

Related Products

Product No.	Interf.	Descriptions
PSS-232011	RS485	Water Quality Residue Chlorine Sensor (IP68)
PSS-232021	RS485	Quad-electrode Salinity Sensor (IP68)
PSS-232031	RS485	Quad-electrode Conductivity Sensor (IP68)
PSS-232041	RS485	Water Quality Digital ORP Sensor (IP68)
PSS-232051	RS485	Water Quality NH4 Sensor (IP68)
PSS-232081	RS485	Water Quality Total Hardness Sensor(IP68)
PSS-234011	RS485	Water Quality Digital PH Sensor (IP68)
PSS-332011	RS485	Optical Dissolved Oxygen Sensor (Optical Fluorescence Principle, IP68, ASTM D888-09)
PSS-332012	RS485	Aquaculture ODO (Optical Fluorescence Principle,IP68)
PSS-332021	RS485	Optical Chlorophyll Sensor (Fluorescent, Self Cleaning, Immersible, IP68)
PSS-332022	RS485	Optical Chlorophyll Sensor (Fluorescent, Flow Cell/Immersible, IP68)
PSS-332031	RS485	Blue Green Algae (Fresh Water, Fluorescence, Self Cleaning, Immersible,IP68)
PSS-332032	RS485	Blue Green Algae (Fresh Water, Fluorescence, Flow cell/Immersible, IP68)
PSS-333011	RS485	Suspended Solid Sensor (Back Scattering Light,Self Cleaning,0-4,000mg/L, IP68)
PSS-333012	RS485	Suspended Solid Sensor (UV254,Self Cleaning,0-10,000mg/L, IP68)
PSS-334012	RS485	Oil-in-Water Sensor (UV Fluorescent,Cruide Oil , Self Cleaning, IP68)
PSS-334014	RS485	Oil-in-Water Sensor (UVFluorescent,Refined Oil, Self Cleaning, IP68)
PSS-334021	RS485	UV254 COD Sensor (Waster Water/Surface Water, IP68)
PSS-334022	RS485	UV254 COD Sensor (Industrial Waster Water, IP68)
PSS-334031	RS485	Optical Turbidity Sensor (Flow cell/Immersible, IP68)
PSS-334032	RS485	Optical Turbidity Sensor (Immersible,Self Cleaning,IP68)
PSS-334041	RS485	Water quality monitoring Colored soluble organic matter CDOM sensor -- ultraviolet - fluorescence method (input type, self-cleaning, IP68)
PSS-334051	RS485	Water color Sensor(Dual Wavelength UV254,immersible,Self Cleaning,IP68)
PSS-BUOY01		Large floating station (ocean version, including floating body, solar panel, battery and controller; without sensor)
PSS-BUOY02		Small floating station (river version, including floating body, solar panel, battery and controller; without sensor)

Product introduction

PSS-232031 It adopts international leading four electrode technology, RS485 digital interface and environmental protection design. Compared with the traditional two electrode conductivity sensor, it has higher accuracy, wider measurement range and strong stability. The four electrode conductivity sensor also has unique advantages of large quantity: first, it completely solves the polarization problem in high conductivity testing; The second is to solve the problem of inaccurate reading caused by electrode pollution.

Detection principle

The four metal electrodes are in contact with the sample surface. The outer 1 and 4 are current conducting electrodes, and the inner 2 and 3 are voltage measuring electrodes. A small current input from the current source causes a voltage drop inside the sample. The advantage of four electrode method is that alloy junction electrode is not required to be prepared between electrode and semiconductor material sample, which brings convenience to measurement.

Product features

- ❖ Intelligent sensor detection item: water conductivity

- ❖ Cable connection, direct use, simple installation
- ❖ Fully waterproof and gas resistant for any harsh environment
- ❖ Strong lightning protection and anti-interference capability
- ❖ Adopt imported chips, components and new surface mounting production process to ensure stable and reliable operation of the instrument
- ❖ No polarization, continuous online use



Product parameters

Parameters	
Monitoring content	Water conductivity
Detection principle	Four electrode
Measuring range	1uS/cm ~ 100 mS/cm
Accuracy	< 1%
Resolution	0.1μS/cm or 0.01mS/cm
Response time	<10s
Material	Nickel+316L stainless steel
Probe cable length	10m (default) customizable
Communication	
Output signal	RS485
Warranty	
Warranty period	1 year
Mechanical	
Work environment	0 °C ~ 60 °C (the part directly contacting the liquid level)
Degree of protection	IP68
Weight	0.5kg (probe part)
Size	146.5*22mm (probe size length * diameter)
Power	
Power	5-12V DC

Maintenance schedule and method

- ❖ Maintenance schedule: unlike the two electrode conductivity sensor technology, the four electrode conductivity probe has strong anti pollution ability, does not polarize, and does not need to be cleaned frequently (except when it is used in viscous liquid)
- ❖ Maintenance method:
 - Outer surface of sensor: clean the outer surface of sensor with tap water. If there is still debris residue, wipe it with a wet soft cloth. For some stubborn dirt, add some household detergent in tap water to clean it;
 - Sensor water inlet and outlet hole: wipe with cotton swab or soft cloth. For some stubborn dirt, add household detergent in tap water to clean;
 - Check the cable of the sensor: the cable shall not be tightened during normal operation, otherwise the wire inside the cable may break, causing the sensor to fail to work normally;
 - Check whether the housing of the sensor is damaged due to corrosion or other reasons;

Calibration period

- ❖ It is recommended to calibrate the sensor once every 1-3 months (or determine the calibration and maintenance cycle according to the requirements of the local competent department for measurement accuracy and the on-site water quality environment)
- ❖ Maintenance, the more frequent the correction, the more effective and accurate the test

Calibration solution method

- ❖ 111.3ms/cm standard solution
- ❖ 12.85ms/cm standard solution

Matters need attention

The probe contains sensitive optical and electronic components. Make sure that the probe is not subjected to severe mechanical impact. There are no parts requiring user maintenance inside the probe.

Application

It is widely used in laboratories, industrial production, industrial production, power, chemical industry, environmental protection, food, semiconductor industry, marine research and development and other industrial production and technology development, as well as in the detection field to measure the conductivity of various solutions such as ultrapure water, pure water, drinking water, sewage, or the overall ion concentration of water samples.

Ordering Guide

- ❖ PSS-232031 sensor is a sensor only, it needs to use with WxS terminals to combine to different product series; On the basis of the combination, multiple PSS sensors can be loaded through the Multiple Purpose Interface (MPI) of the intelligent IoT terminal.
- ❖ According to the specific scenario of use case, the enclosure and antenna of intelligent IoT terminal will be replaced to ensure the product quality and performance.
- ❖ PSS sensors can be integrated with the WxS terminal via the MPI interface to form different product series.
- ❖ Example of products are as follows:
 - WxS7800-232031 WiFi Series Quad-electrode Conductivity Smart Sensor & RTU 2-in-1 Terminal
 - WxS8800-232031 LoRaWAN Series Quad-electrode Conductivity Smart Sensor & RTU 2-in-1 Terminal
 - WxS9800-232031 NB-IoT (China) Series Quad-electrode Conductivity Smart Sensor & RTU 2-in-1 Terminal
 - WxS9900-232031 NB-IoT (Global) Series Quad-electrode Conductivity Smart Sensor & RTU 2-in-1 Terminal
 - WxSC800-232031 LTE Cat1 Series Quad-electrode Conductivity Smart Sensor & RTU 2-in-1 Terminal
 - WxSC900-232031 LTE Cat1 w/GPS Series Quad-electrode Conductivity Smart Sensor & RTU 2-in-1 Terminal
 - WxSD800-232031 LTE Cat4 Series Quad-electrode Conductivity Smart Sensor & RTU 2-in-1 Terminal
 - CxS1800-232031 Ethernet (RJ45) Series Quad-electrode Conductivity Smart Sensor & RTU 2-in-1 Terminal