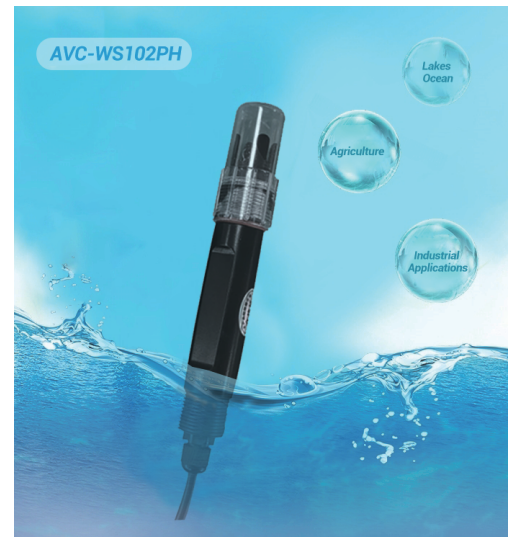




AVCOMM's Effective Approach to PH Sensor Implementation

Water is the lifeblood of our planet, and its quality is a decisive factor in determining its appropriateness for various purposes. From drinking and recreational use to agricultural and industrial applications, the value of water is determined by its physical, chemical, and biological characteristics. Among the critical parameters for assessing water quality is its PH level, which signifies the balance between positively charged hydrogen ions (H+) and negatively charged hydroxide ions (OH-) in a solution, indicating its acidity or alkalinity. Different water applications necessitate specific PH ranges for safety and efficiency. AVCOMM's PH sensors play a significant role in monitoring the PH of bodies of water, from rivers and lakes to oceans, as well as in measuring the PH of drinking water and wastewater from treatment plants.



The Challenge

The application of PH sensors in various sectors brings with it unique requirements and challenges:

- **General Water Treatment:** The speed and accuracy of PH sensors are vital in this sector. A high-performing sensor ensures the chemical composition of the incoming water supply meets the purity standards.
- **Sewage Treatment:** This area requires PH sensors that demand minimal maintenance and calibration while providing accurate readings and reliable performance.
- **Aquaculture:** The PH of recirculating water systems must be consistently measured, a task made difficult by factors like temperature, salinity, and dissolved oxygen content.
- **Beverage and Food:** For these industries, consistent and accurate PH sensor readings are essential for maintaining quality control and consumer safety.
- **Industrial Sewage Discharge Monitoring:** Reliable pre-calibration methods, reduced calibration time, and integration into automated systems are crucial for effective monitoring in this sector.

The Solution

AVCOMM's AVC-WS102PH PH sensor is designed to meet these challenges head-on. The sensor features an integrated design, lightweight and straightforward structure, and user-friendly interface. With its IP68 protection level, it can be submerged and left in-situ for long-term monitoring. The double salt bridge design of the reference improves its resistance to contamination. The sensor is known for its high precision, rapid response, excellent interchangeability, and accurate measurements.

Power supply	DC7~30V
Power consumption	0.3W
Cable length	5m or customize
Electrode withstand voltage	0.6MPa
Ingress protection	IP68
Operating temperature	0~60°C
Dimension	266x30 (mm)
Detection Parameter	
PH measurement range	0~14pH
PH resolution	0.01pH
PH measurement error	±0.15pH
Temperature measurement range	0~60°C
Temperature resolution	0.1°C
Temperature measurement error	±0.5°C
Output	RS485 (Modbus RTU)
Communication Protocol	
Protocol	Modbus RTU
Data bits	8 bit
Parity bit	No
Stop bit	1
Error detecting code	CRC
Baud rate	2400bit/s、4800bit/s、9600 bit/s can be set, factory default 4800bit/s

The AVC-WS102PH can measure the PH value, temperature value, PH deviation value, and temperature deviation value. The device also features an automatic temperature compensation function that can be switched to manual compensation at will, improving the accuracy of the measurement results. AVCOMM's ATMS IoT cloud platform collects sensor data and visualizes it. If the data reaches alarming levels, the platform issues an alert.

The ATMS platform features:

- MQTT and RESTful API for easy data access from an Industrial IoT gateway.
- Real-time online monitoring, analysis, and reporting.
- Remote cloud security and visual management.
- Flexible and secured access from any web browser on a PC or smartphone.

Value Delivered

The AVCOMM PH sensor provides the following benefits:

- Durability:** Its integrated design enables it to withstand harsh environments for extended periods. The IP68 rating ensures the device's safe and proper functioning.
- Accuracy and Alertness:** The sensor responds swiftly, provides accurate data, and can detect anomalies in various types of water. The ATMS platform can send timely alerts based on accurate data.
- Versatility:** The device accurately detects PH and temperature values and features an automatic temperature compensation function that enhances the accuracy of measurement results.

Future Outlook

The maintenance and improvement of water quality remain top priorities worldwide. The growing global population and environmental changes will continue to exert pressure on water resources. Technological advances and research, coupled with regulatory frameworks, present promising methods to address future challenges. Investments and innovations, supported by an interdisciplinary approach, can help achieve the shared goal of sustainable clean water access, promoting better health, environmental quality, and economic prosperity.

Product Link

AVC-WS102PH PH sensor

<https://inc.avcomm.us/shop/avc-ws102ph-2320?page=2&category=42#attr=>



PH sensor