

Wireless Flow Sensors Market - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)

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Report description:

The wireless flow sensors market is expected to register a CAGR of 27.07% over the forecast period. With a lot of innovation and modern technologies such as Coriolis, ultrasonic, magnetic, and vortex flow sensors are a significant competition to traditional measurement technologies. These advanced technologies have also witnessed competition among themselves. Each technique has pros and cons that suit a specific application.

Key Highlights

The revival of the oil and gas industry and the expanding infrastructure in the water and wastewater industry are likely to drive growth in the medium to long term. Growth opportunities are opening in developing economies, such as China and India, that have developed their oil, gas, and chemical industries.

The increasing quest for new energy sources, renewable energy development, government regulations, and rapid technological advancements are the key drivers making the wireless flow sensors market grow with a boom. The demand for wireless flow sensors is increasing significantly as it saves time, materials, and labor. With modern microelectronics, flowmeters offer many communication options.

Flow sensors can detect leaks, blockages, pipe bursts, and changes in liquid concentration due to contamination or pollution. Ultrasonic flow sensors are the most popular type of non-contact flow sensor. Ultrasonic flow sensors send high-frequency sound pulses across the flowing liquid or gas medium. These sensors measure the time between the emission of the sound and its contact with the sensor's receiver to determine the flow rate of the gas or liquid.

Increasing advancements, such as incorporating new protocols to ease the connection to enterprise networks, are further boosting market growth. For instance, a flow sensor can have an Open Platform Communication - Unified Architecture (OPC-UA) server application package built into the flowmeter, allowing the device to communicate with an OPC-UA client and be integrated into Industrial Internet of Things (IIoT) applications. This is accomplished through networking the flowmeter via either LAN or WLAN,

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which allows the DCS or PLC to be dedicated to the control function. In contrast, this additional communication path can be devoted to diagnostic, monitoring, and reporting purposes.

The COVID-19 pandemic positively impacted the wireless flow sensors market. According to the World Health Organization (WHO), the water supply had to be kept safe, owing to the chances of virus transmission that could quickly grow through sewage. This factor drove the adoption of biological wastewater treatment systems and propelled the growth of the wireless flow sensors market during the pandemic. Government bodies and non-profit organizations created awareness about water safety and security during the pandemic.

Wireless Flow Sensors Market Trends

Increasing Adoption of Wireless Technologies to Drive the Market Growth

Wireless sensors are advantageous over wireline, with a broader range of features and compatibility, faster response, and lower power consumption. Growing investments by leading players and the demand for wireless technologies from end-user industries support the market.

With many companies moving toward wireless, production costs are declining, enabling broader market consumption. However, a lack of awareness and capital in developing markets and a strong foothold of wireline sensors in traditional markets are restraining the growth of wireless sensors, with many consumers being skeptical about adopting new technologies. Moreover, the increasing adoption of Wi-Fi and WLAN across the globe is driving the wireless sensor market.

Flow sensors can now shortcut the once-complex procedure of getting flow and status information to SCADA (Supervisory Control and Data Acquisition), CMMS (Computerized Maintenance Management System), ERP (Enterprise Resource Planning), and other enterprise-level networks. With these communication capabilities, the software can easily access the data it needs directly from the device.

Mobile technology is also working its way into flow sensors. Flowmeters already have wireless, Bluetooth, and web server capabilities, which means flowmeters can be accessed, probed, configured, and diagnosed over smartphones, tablets, and handheld devices. Such benefits of wireless flow sensors are mainly fueling the market demand.

North America to Witness Significant Growth

The United States is North America's largest consumer of wireless flow sensors. Wireless flow sensors occupy a major share in the United States, with significant demand from the water and wastewater industry.

The market in the United States is driven by technology, with consumers preferring products offering the latest technology with reliable performance. Thus, wireless flow meters are becoming extremely popular among the end-users in this country.

Huge investments and legislative initiatives on wireless technology in countries such as the United States and Canada have fuelled market growth in the North American region. Moreover, the region's augmentation of WSN (wireless sensor network) is expected to bolster the market demand for these sensors.

With many large companies being established players in the market, the US remains one of the prominent countries globally. Growing applications of plastic in industrial and consumer markets result in industrial waste. Approximately 80% of the hundreds of millions of tons of plastics used in the US annually end up in landfills. Another 15% was incinerated, and 5% was recycled, according to pumps and systems, in September 2022.

As industrial waste increases worldwide, it also increases global pollution that endangers drinking water and air. Understanding the importance of reducing industrial waste, some manufacturers are turning waste into clean fuels. More specifically, they are turning plastic waste materials into commercially viable byproducts.

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To ensure the accurate conversion of plastics to fuel in the system, the demand for flow meters is significantly increasing in two critical and distinct processes in the waste conversion system: monitoring the flow of coolant during distillation and accurately metering the fuels being dispensed from the facility holding tanks into users' tanks.

Wireless Flow Sensors Market Competitor Analysis

The wireless flow sensors market is very competitive. Some of the significant players in the market are Panasonic Corporation, Honeywell International Inc., Texas Instruments Incorporated, ABB Ltd, Siemens AG, AW-Lake, Emerson Electric Co., Sensata Technologies Inc., and many more. Companies are increasing their market share by forming multiple partnerships and investing in introducing new products to earn a competitive edge during the forecast period.

In March 2022, toward the latest requirements and developments of the Industry 4.0 revolution, ES Systems developed innovative, smart, autonomous, low-power, and wireless sensors ideal for integrating IoT systems and solutions. ES Systems announced the extent of its worldwide distribution channel through three new distribution agreements with the following companies: Nexcomm, Powell, and Servoflo. Through the partnership, ES system will leverage its position in the market and promote its product range of flow sensors worldwide. Moreover, the new partnerships focus on expanding the company's sensors product presence and providing customers with outstanding quality and exceptional customer service.

In July 2021, Endress+Hauser acquired SensAction AG and is now Endress+Hauser Flow Germany AG. The wholly owned subsidiary of Endress+Hauser Flowtec AG, based in Reinach, Switzerland, is now fully integrated into the group. The company aims to be the market leader in ultrasonic flow measurement or flow sensor technology in combination with quality measurements. By combining quality and flow measurement, the company can provide customers with information for process optimization. The company also focuses on using Industry 4.0 solutions to help customers improve efficiency and quality.

Additional Benefits:

The market estimate (ME) sheet in Excel format
3 months of analyst support

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