

US Pressure Sensors - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)

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Report description:

The US Pressure Sensors Market size is estimated at USD 23.16 billion in 2025, and is expected to reach USD 33.24 billion by 2030, at a CAGR of 7.5% during the forecast period (2025-2030).

Key Highlights

- The US pressure sensors market is expected to grow significantly over the forecast period due to the advancements in sensor technologies and increasing automation in several industries across the country requiring accurate and real-time pressure measurement. In many process applications, hydraulics, and pneumatics, pressure sensors monitor relative system pressure.
- These sensors have witnessed significant growth over the years owing to the increasing applications across various industries, such as aerospace, automotive, healthcare, consumer goods, etc. From laboratory applications to plant and mechanical engineering, pressure and level measuring devices have become as diverse as their application areas due to the evolution of measurement technologies.
- The country has the highest adoption of automation and smart devices in almost every industry. Owing to the aggressive automation in the country, the government is promoting the adoption of smart homes and smart commercial spaces. Compared to the world, the United States has also witnessed the most increased adoption of IT in the healthcare industry.
- The increasing adoption of the Internet of Things (IoT) is another major factor spearheading the market's growth. Pressure sensors are transforming the development of smart homes and buildings, smart factories, and smart cities. Hence, the increase in IoT-connected devices is anticipated to fuel the market's growth.
- In the automotive industry, the US government's TREAD Act mandates that they undertake some actions to improve tire safety, e.g., by issuing a directive on improving durability and resistance standards for tires, improving tire labeling information, or requiring drivers to be informed when tires are excessively inflated. Also, it mandates the installation of the tire pressure monitoring system (TPMS) in all types of automobiles so that drivers can be cautious about the under-inflation of cars within 20

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minutes of its detection.

- Although the integration of pressure sensors increases the industrial automation level, it incurs an additional cost, which limits their use in cost-sensitive applications. Furthermore, the critical issue for small and mid-sized pressure sensor manufacturers, primarily because of their lack of cash, is the rising development costs associated with R&D activities to produce new products.

US Pressure Sensors Market Trends

Automotive Industry to Show Highest Growth

- The automotive industry is among the most vital end users for pressure sensors, with many of the critical systems in a car relying on pressure sensors to measure and keep track of crucial specifications. One of the most common uses for an electronic pressure sensor is to measure the pressure of the vehicle's critical fluids, including engine oil, gearbox, transmission oil, and hydraulic oil in the braking, cooling, and fuel systems.

- The automotive industry, undergoing a technology transformation with the significant objective of increasing safety, comfort, and entertainment, provides various opportunities for pressure sensors. The miniature size of these sensors, such as MEMS, is influencing their demand in the industry's design scheme, making them a crucial factor for massive adoption.

- With technological developments driving the development of autonomous and self-driving cars, the adoption of car sensors is expected to witness subsequent growth. In the automotive sector, safety regulations enforced by governmental organizations also play a crucial role in incorporating pressure sensors. For instance, in the United States, the NHTSA has mandated using TPMS (tire pressure monitoring system) since 2002. Hence, the US automotive sector has been leading the market due to its robust automotive industry.

- Due to several government regulations that are geared toward reducing environmental pollution, the automotive industry is now at a crossroads, moving away from the fossil fuel base and toward various alternatives such as greener fuels and technologies and digitalization. It is one of the primary factors that has led to a rapid increase in electric vehicles. As the automotive industry embraces electrification, it is essential to revolutionize powertrains and enhance the driving experience, where pressure sensors play a pivotal role.

- According to the IEA, in 2023, almost 14 million new electric cars were registered worldwide, bringing the total number of electric vehicles on the road to 40 million. In addition, the United States is one of the growing economies that is aggressively focusing on adopting electric vehicles. In 2023, the United States sold 3.5 million BEVs and 1.3 million PHEVs. These trends show that as the market for electric vehicles grows, it will thereupon drive the market for pressure sensors.

Medical Industry to Hold Significant Market Share

- Pressure sensors create contradictory requirements for developers that could compromise product quality and safety since health equipment manufacturers are constantly pressured to keep costs low and quality high. Pressure sensors present several reliability challenges for manufacturers, who must use costly continuous maintenance and replacement parts during the sensor's lifetime due to an inherently shorter life cycle. However, where these sensors require significant accuracy and reliability and the possibility of component failure, which could put safety at risk, a higher level of importance remains in medicine.

- The pressure sensors' requirement to make ventilators has been observed to rise. Multiple vendors have continued production to support a stable supply of ventilator pressure sensors.

- For instance, in April 2023, Superior Sensor Technology introduced pressure sensors for medical ventilators with over-sampling to expand the dynamic range. The oversampling also allows for direct use of sensor outputs at full speed by mechanical ventilators and eliminates the need for post-sampling of sensor outputs. Seven devices support applications from the

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measurement of flow to inlet, inspiratory, expiratory, and barometric pressure. Such trends are likely to increase the demand for pressure sensors and, thereby, are expected to put considerable pressure on the manufacturers.

- Sleep disorders like sleep apnea are more prevalent in US adults. The Centers for Disease Control and Prevention (CDC) found that three in four US adults have sleep disorder symptoms. According to the American Medical Association, around 30 million Americans are suffering from sleep apnea. Obstructive sleep apnea (OSA) is a common condition where the upper airway is blocked while sleeping. Approximately 39 million US adults have obstructive sleep apnea.
- Positive airway pressure, or PAP, is the leading and recommended treatment for obstructive sleep apnea. Pressure sensors are instrumental for PAP function. Patients wear a mask over their nose and mouth during PAP therapy, and an air blower gently pushes air into the mask. In order to prevent the tissues of the upper airway from collapsing during sleep, the air pressure is adjusted. The increasing number of sleep apnea disorders in the country will expedite the adoption of several PAP machines in the upcoming years.

US Pressure Sensors Industry Overview

The US pressure sensors market is semi-consolidated and has significant local and global players. In terms of market share, few of the major players currently dominate the market. However, many companies increase their market presence with innovative and sustainable product development by securing new contracts and tapping new markets.

- January 2024 - Sensata Technologies introduced a 129CP digital water pressure sensor to improve water pressure monitoring for utilities seeking to reduce waste. The new sensor will address the rising challenges water utilities face due to non-revenue water loss due to leaks, inaccuracies, and unauthorized consumption. The Sensata sensor design aims to improve performance in water metering by providing precise pressure monitoring and digital communication, which allows water meters to provide detailed information on water use.
- November 2023 - Sensata Technologies achieved an important milestone in the ongoing pursuit of technology excellence. The company secured a strategic business win from a global automotive systems and components manufacturer to develop a suspension pressure sensor tailored for an electric vehicle's active suspension system (ASS). A new era in automotive engineering, where the focus is not only on zero emissions but also on delivering an exceptional driving experience, will be created by integrating Sensata Technologies' pressure sensors into active suspension systems of electric vehicles.

Additional Benefits:

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

Table of Contents:

1 INTRODUCTION

1.1 Study Assumptions and Market Definition

1.2 Scope of the Study

2 RESEARCH METHODOLOGY

3 EXECUTIVE SUMMARY

4 MARKET INSIGHTS

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- 4.1 Market Overview
- 4.2 Industry Value Chain Analysis
- 4.3 Industry Attractiveness - Porter's Five Forces Analysis
 - 4.3.1 Bargaining Power of Suppliers
 - 4.3.2 Bargaining Power of Buyers
 - 4.3.3 Threat of New Entrants
 - 4.3.4 Threat of Substitute Products
 - 4.3.5 Intensity of Competitive Rivalry
- 4.4 Impact of COVID-19 Aftereffects and Other Macroeconomic Factors on the Market

5 MARKET DYNAMICS

- 5.1 Market Drivers
 - 5.1.1 Growth of End-user Verticals, Such as Automotive and Healthcare
 - 5.1.2 Increasing Adoption of MEMS and NEMS Systems in the Industry
- 5.2 Market Restraint
 - 5.2.1 High Costs Associated with Sensing Products

6 MARKET SEGMENTATION

- 6.1 By Application
 - 6.1.1 Automotive (Tire Pressure, Brake Fluid Pressure, Vapor Pressure in Fuel Tank, Fuel Injection and CDRi, and Manifold Absolute Pressure Among Others)
 - 6.1.2 Medical (Continuous Positive Airway Pressure (CPAP), Ventilators and Inhalers, and Blood Pressure Monitoring, Among Others)
 - 6.1.3 Consumer Electronics
 - 6.1.4 Industrial
 - 6.1.5 Aerospace & Defence
 - 6.1.6 Food & Beverage
 - 6.1.7 HVAC
 - 6.1.8 Others

7 COMPETITIVE LANDSCAPE

- 7.1 Company Profiles
 - 7.1.1 ABB Ltd
 - 7.1.2 All Sensors Corporation
 - 7.1.3 Bosch Sensortec GmbH
 - 7.1.4 Sensata Technologies Inc.
 - 7.1.5 Kistler Group
 - 7.1.6 Honeywell International Inc.
 - 7.1.7 Invensys Ltd
 - 7.1.8 Endress+Hauser AG
 - 7.1.9 Rockwell Automation Inc.
 - 7.1.10 Rosemount Inc. (Emerson Electric Company)
 - 7.1.11 GMS Instruments BV
 - 7.1.12 Siemens AG
 - 7.1.13 Yokogawa Corporation

8 INVESTMENT ANALYSIS

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