

Battery Sensor Market Size to Hit USD 15.92 Billion by 2032, Driven by battery management systems

The Battery Sensor Market is growing with demand for real-time monitoring in EVs, industrial, and consumer electronics.

AUSTIN, TX, UNITED STATES, February 27, 2025 /EINPresswire.com/ -- Market Size & Industry Insights

According to the SNS Insider Report, "The [Battery Sensor Market Size](#) was valued at USD 6.30 billion in 2023 and is expected to grow to USD 15.92 billion by 2032, at a CAGR of 10.85% over the forecast period of 2024-2032."



Battery Sensor Market Size & Growth Analysis

The battery sensor market has been driven owing to rocket fuel demand for electric vehicles (EV) which requires advanced battery management systems for better performance and safety. Besides, the growing implementation of smart grid systems and renewable energy storage solutions is propelling demand for effective battery monitoring. The increasing awareness among consumers regarding the safety of vehicles and the fuel efficiency of a vehicle also nurtures market growth along with the implementations provided by the governments for emission regulations. Growth is also supported by technological improvements in terms of sensor precision as well as connectivity.

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SWOT Analysis of Key Players as follows:

- Continental AG
- Furukawa Electric
- Bosch
- Vishay Technologies
- NXP Semiconductors

- Texas Instruments
- Inomatic
- Hella
- TE Connectivity
- Denso Corporation
- AMS AG
- Autotec Components
- Renesas Corporation
- Insplorion AB

Key Market Segmentation:

By Communication: The Controller Area Network (CAN) led the sensor market to overall battery in 2023, owing to its ability to enable robust communication, along with delivering high-data transmission speed and redundancy in an established protocol, particularly for effective battery management in electric vehicles (EVs), thus driving the growth of the sensor market to overall battery.

The local interconnect network (LIN) is projected to hold the highest growth rate during the forecast period (2024–2032) and this is attributed to its low cost, ease of use, and use case in less demanding applications, such as small vehicle battery monitoring and energy storage systems, which can be further attributed to the growing adoption of the same.

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By Voltage: The 12V segment held the largest share of the battery sensor market in 2023 owing to its application in conventional internal combustion engine vehicles for battery monitoring and management. The reason behind its market share lead was due to its economical price point, ability to blend in seamlessly with the rest of the EV ecosystem, and reliability for powering electronic components within the vehicle.

The 24V segment is anticipated to experience the highest CAGR from 2024 to 2032 with increasing demand for electric vehicles (EVs), commercial vehicles, and heavy-duty applications that need higher output capacity and efficiency. This momentum is then bolstered by the enigmatic and transitional move to more reliable battery systems and energy storage solutions.

By Category: The passenger car segment accounted for the largest share concerning volume in the battery sensor market in 2023 since these vehicles have the highest sales volumes and also there is an increased adoption of advanced battery management systems for improved safety and fuel economy. Its leading position was also facilitated by the increasing demand for electric and hybrid passenger vehicles.

The light commercial vehicle (LCV) segment is expected to see the highest CAGR from 2024-2032,

due to the rapid rise of e-trade, logistics, and closing-mile shipping services. This growth trend is poised to accelerate, driven by the transition toward electric LCVs which are better at cost efficiency and lower emissions.

By Type: The Battery Electric Vehicle (BEV) segment led the battery sensor market in 2023 due to an increase in demand for zero-emission vehicles, supportive government incentives, and technological advancements in battery technology. Additionally, his leading market share was backed by the growing deployment of charging infrastructure.

The Hybrid Electric Vehicle (HEV) category is projected to experience the most significant compound annual growth rate (CAGR) through the period of 2024 to 2032, due to greater fuel efficiency, an increase in driving distance on one fuel tank, and the emission output being lesser than a conventional vehicle. Consumer demand for flexible and sustainable transportation, as well as automaker expansion of hybrid models, only adds to this trend of growth.

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Asia Pacific Leads Battery Sensor Market in 2023 While North America Poised for Rapid Growth

Asia Pacific region led the existing battery sensor market in 2023, on account of the strong automotive sector, high production of electric vehicles (EVs), as well as the presence of larger battery manufacturers in countries including, China, Japan, and South Korea. Plus, government incentives, increasing environmental concerns, and consumer demand for vehicles with better fuel economy helped boost the market. Furthermore, a shift toward urbanization and rising disposable income resulted in the region being on the podium.

North America is anticipated to witness the highest CAGR from 2024 to 2032, as a result of rising adoption of EVs, increasing government regulations on emissions, and growing investments in advanced battery management systems. This growth is also aided by the presence of top automotive and technology companies developing electric mobility solutions as well as an increasing demand for connected cars and autonomous vehicles. In addition, an increase in energy storage systems for renewable energy is anticipated to accelerate the North American market growth.

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