

Vietnam Automotive Temperature Sensor Market, By Vehicle Type (Passenger Cars, Commercial Vehicles), By Product (Resistance Temperature Detectors (RTD), Thermistor, MEMS, IC Temperature Sensor, Thermocouple, Infrared Temperature Sensor), By Usage (Gas, Air, Liquid), By Application (Engine, Exhaust, HVAC, Transmission, Thermal Seats, EV Battery, EV Motor), By Technology (Contact, Non-Contact), By Region, Competition, Forecast & Opportunities, 2020-2030F

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Abstracts

Market Overview

Vietnam automotive temperature sensor market was valued at USD 268.52 Million in 2024 and is expected to reach USD 355.75 Million by 2030 with a CAGR of 4.8% during the forecast period. The steady expansion is driven by Vietnam's growing automotive production capabilities, government incentives promoting electric vehicle (EV) adoption, and the increasing integration of advanced thermal management systems. The growth of Vietnam's middle-class population, coupled with urbanization, has resulted in a surge in passenger and commercial vehicle sales. As vehicle electronics become more sophisticated, so does the requirement for accurate and reliable temperature monitoring, particularly for engine management, HVAC systems, and EV components.

Key Market Drivers

Growth in Electric Vehicle (EV) Manufacturing and Adoption

The Vietnamese government's push toward greener mobility is accelerating the adoption of electric vehicles, which in turn fuels the demand for advanced temperature sensors. EVs require multiple high-precision sensors to monitor battery packs, electric motors, power electronics, and cabin temperatures. Local automaker VinFast is a major catalyst, with its aggressive EV expansion strategy that includes both domestic rollout and global exports. As per the Vietnam Automobile Manufacturers' Association (VAMA), EV registrations surged over 45% year-on-year in 2024, and are expected to exceed 150,000 units by 2030, which directly corresponds to a heightened demand for IC, MEMS, and infrared temperature sensors. Battery management systems (BMS) in EVs are highly reliant on temperature sensors for safety and performance. This makes temperature sensors not just a functional component, but a critical safety and energy-efficiency enabler.

Key Market Challenges

High Dependence on Imported Sensor Technologies

Vietnam's domestic automotive sensor manufacturing capacity remains limited. Most advanced temperature sensors, particularly MEMS and IC-based designs, are imported from countries like Japan, South Korea, and Germany. This leads to higher production costs, import tariffs, and longer supply chains. The lack of in-house design and fabrication infrastructure for automotive-grade sensors creates vulnerability to global supply disruptions. For instance, the global semiconductor shortage of 2021–2023 impacted Vietnamese vehicle production significantly due to the scarcity of temperature and pressure sensors. Without strong domestic players or joint ventures in sensor R&D and production, Vietnam may face challenges in keeping up with future demand and innovations.

Key Market Trends

Integration of Temperature Sensors in Battery Thermal Management Systems (BTMS)

One of the most significant trends is the increasing use of temperature sensors in battery thermal management for EVs and hybrids. Lithium-ion batteries are highly temperature-sensitive and require precise thermal regulation to maintain performance, longevity, and safety. Automotive OEMs in Vietnam, especially VinFast, are integrating up to 8–12 thermal sensors per vehicle to monitor battery cells, modules, and packs.

These sensors enable dynamic heating and cooling based on real-time data, improving charging efficiency and battery lifespan. As the country moves toward battery swapping and high-speed charging, BTMS will play an even more critical role, driving the demand for high-accuracy sensors such as RTDs and thermistors.

Key Market Players

Robert Bosch GmbH

Continental AG

DENSO Corporation

Sensata Technologies, Inc.

TE Connectivity Ltd.

NXP Semiconductors N.V.

STMicroelectronics N.V.

Texas Instruments Incorporated

Analog Devices, Inc.

HELLA GmbH & Co. KGaA

Report Scope:

In this report, the Vietnam Automotive Temperature Sensor market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:

Vietnam Automotive Temperature Sensor Market, By Vehicle Type:

Passenger Cars

Commercial Vehicles

Vietnam Automotive Temperature Sensor Market, By Product:

Resistance Temperature Detectors (RTD)

Thermistor

MEMS

IC Temperature Sensor

Thermocouple

Infrared Temperature Sensor

Vietnam Automotive Temperature Sensor Market, By Usage:

Gas

Air

Liquid

Vietnam Automotive Temperature Sensor Market, By Application:

Engine

Exhaust

HVAC

Transmission

Thermal Seats

EV Battery

EV Motor

Vietnam Automotive Temperature Sensor Market, By Technology:

Contact

Non-Contact

Vietnam Automotive Temperature Sensor Market, By Region:

North Vietnam

South Vietnam

Central Vietnam

Competitive Landscape

Company Profiles: Detailed analysis of the major companies presents in the Vietnam Automotive Temperature Sensor market.

Available Customizations:

Vietnam Automotive Temperature Sensor market report with the given market data, TechSci Research offers customizations according to a company's specific needs. The following customization options are available for the report:

Company Information

Detailed analysis and profiling of additional market players (up to five).

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