

Bearing Temperature Sensors Market Outlook 2025-2034: Market Share, and Growth Analysis By Product Type(Thermocouples, Resistance Temperature Detectors, Infrared Sensors),By Application, By End User, By Technology

<https://marketpublishers.com/r/BC068DAE4CC9EN.html>

Date: July 2025

Pages: 150

Price: US\$ 3,950.00 (Single User License)

ID: BC068DAE4CC9EN

Abstracts

The global Bearing Temperature Sensors Market size is valued at USD 1089 million in 2024 and is projected to reach USD 1956.7 million by 2032, registering a compound annual growth rate (CAGR) of 7.6% over the forecast period.

The bearing temperature sensors market is experiencing steady growth driven by increasing adoption of predictive maintenance and condition monitoring systems in industrial, automotive, aerospace, and power generation sectors. These sensors provide real-time temperature data of bearings, enabling early detection of overheating, lubrication failure, or mechanical issues, thereby preventing unplanned downtime and extending equipment lifespan. Manufacturers are focusing on developing compact, high-response sensors with robust designs to withstand harsh environments, vibration, and wide temperature ranges. The market benefits from trends towards Industry 4.0 and smart factories where integrated sensor-based monitoring is critical for operational efficiency. However, it faces challenges such as installation complexities in retrofitting existing equipment, signal noise in high-vibration applications, and price sensitivity in cost-driven industries. Recent developments include SKF introducing wireless bearing temperature sensors for easy integration in rotating equipment, TE Connectivity launching miniature sensors with high accuracy for aerospace and automotive applications, and ABB enhancing its smart sensor portfolio with improved temperature sensing capabilities for motors and bearings. Government regulations mandating machinery safety standards and industrial digitalisation initiatives are further supporting market growth globally.

A major trend is the integration of wireless and IoT-enabled bearing temperature sensors that allow remote monitoring and data analytics, enabling predictive maintenance and reducing reliance on manual inspection in critical industrial operations.

The market is driven by increasing implementation of condition monitoring systems in manufacturing, automotive, and power sectors to detect bearing overheating or lubrication failures early, preventing costly downtime and equipment damage.

Challenges include installation difficulties in retrofitting sensors onto existing bearing assemblies, signal interference issues in high-vibration environments affecting data accuracy, and pricing pressures in industries prioritising low-cost maintenance solutions.

Companies are focusing on developing compact, vibration-resistant, and high-temperature range sensors, enhancing wireless communication capabilities, and integrating with broader condition monitoring and asset management systems for seamless plant operations.

Recent developments include SKF launching wireless temperature sensors for easy installation on rotating machinery, TE Connectivity introducing miniature high-accuracy sensors for automotive and aerospace bearings, and ABB upgrading its smart sensor systems with advanced temperature monitoring features.

Government regulations mandating machinery safety standards, predictive maintenance implementation under Industry 4.0 programs, and occupational safety requirements are encouraging industries to adopt reliable bearing temperature sensors to ensure operational efficiency and compliance.

Bearing Temperature Sensors Market Size Data, Trends, Growth Opportunities, and Restraining Factors

This comprehensive Bearing Temperature Sensors market report delivers updated market size estimates from 2024 to 2034, offering in-depth analysis of the latest Bearing Temperature Sensors market trends, short-term and long-term growth drivers, competitive landscape, and new business opportunities. The report presents growth forecasts across key Bearing Temperature Sensors types, applications, and major segments, alongside detailed insights into the current Bearing Temperature Sensors market scenario to support companies in formulating effective market strategies.

The Bearing Temperature Sensors market outlook thoroughly examines the impact of ongoing supply chain disruptions and geopolitical issues worldwide. Factors such as trade tariffs, regulatory restrictions, production losses, and the emergence of alternatives or substitutes are carefully considered in the Bearing Temperature Sensors market size projections. Additionally, the analysis highlights the effects of inflation and correlates past economic downturns with current Bearing Temperature Sensors market trends, providing actionable intelligence for stakeholders to navigate the evolving Bearing Temperature Sensors business environment with precision.

Bearing Temperature Sensors Market Competition, Intelligence, Key Players, winning strategies to 2034

The 2025 Bearing Temperature Sensors Market Research Report identifies winning strategies for companies to register increased sales and improve market share.

Opinions from senior executives from leading companies in the Bearing Temperature Sensors market are imbibed thoroughly and the Bearing Temperature Sensors industry expert predictions on the economic downturn, technological advancements in the Bearing Temperature Sensors market, and customized strategies specific to a product and geography are mentioned.

The Bearing Temperature Sensors market report is a source of comprehensive data and analysis of the industry, helping businesses to make informed decisions and stay ahead of the competition. The Bearing Temperature Sensors market study assists investors in analyzing On Bearing Temperature Sensors business prospects by region, key countries, and top companies' information to channel their investments.

The report provides insights into consumer behavior and preferences, including their buying patterns, brand loyalty, and factors influencing their purchasing decisions. It also includes an analysis of the regulatory environment and its impact on the Bearing Temperature Sensors industry. Shifting consumer demand despite declining GDP and burgeoning interest rates to control surging inflation is well detailed.

What's Included in the Report

Global Bearing Temperature Sensors market size and growth projections,
2024- 2034

North America Bearing Temperature Sensors market size and growth forecasts, 2024- 2034 (United States, Canada, Mexico)

Europe market size and growth forecasts, 2024- 2034 (Germany, France, United Kingdom, Italy, Spain)

Asia-Pacific Bearing Temperature Sensors market size and growth forecasts, 2024- 2034 (China, India, Japan, South Korea, Australia)

Middle East Africa Bearing Temperature Sensors market size and growth estimate, 2024- 2034 (Middle East, Africa)

South and Central America Bearing Temperature Sensors market size and growth outlook, 2024- 2034 (Brazil, Argentina, Chile)

Bearing Temperature Sensors market size, share and CAGR of key products, applications, and other verticals, 2024- 2034

Short- and long-term Bearing Temperature Sensors market trends, drivers, challenges, and opportunities

Bearing Temperature Sensors market insights, Porter's Five Forces analysis

Profiles of 5 leading companies in the industry- overview, key strategies, financials, product portfolio and SWOT analysis

Latest market news and developments

Key Questions Answered in This Report :

What is the current Bearing Temperature Sensors market size at global, regional, and country levels?

What is the market penetration of different types, Applications, processes/technologies, and distribution/sales channels of the Bearing Temperature Sensors market?

What will be the impact of economic slowdown/recission on Bearing Temperature Sensors demand/sales?

How has the global Bearing Temperature Sensors market evolved in past years and what will be the future trajectory?

What is the impact of growing inflation, Russia-Ukraine war on the Bearing Temperature

Sensors market forecast?

What are the Supply chain challenges for Bearing Temperature Sensors?

What are the potential regional Bearing Temperature Sensors markets to invest in?

What is the product evolution and high-performing products to focus in the Bearing Temperature Sensors market?

What are the key driving factors and opportunities in the industry?

Who are the key players in Bearing Temperature Sensors market and what is the degree of competition/Bearing Temperature Sensors market share?

What is the market structure /Bearing Temperature Sensors Market competitive Intelligence?

Available Customizations

The standard syndicate report is designed to serve the common interests of Bearing Temperature Sensors Market players across the value chain, and include selective data and analysis from entire research findings as per the scope and price of the publication.

However, to precisely match the specific research requirements of individual clients, we offer several customization options to include the data and analysis of interest in the final deliverable.

Some of the customization requests are as mentioned below –

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Bearing Temperature Sensors Pricing and Margins Across the Supply Chain, Bearing Temperature Sensors Price Analysis / International Trade Data / Import-Export Analysis,

Supply Chain Analysis, Supply–Demand Gap Analysis, PESTLE Analysis, Macro-Economic Analysis, and other Bearing Temperature Sensors market analytics

Processing and manufacturing requirements, Patent Analysis, Technology Trends, and Product Innovations

Further, the client can seek customization to break down geographies as per their requirements for specific countries/country groups such as South East Asia, Central Asia, Emerging and Developing Asia, Western Europe, Eastern Europe, Benelux,

Emerging and Developing Europe, Nordic countries, North Africa, Sub-Saharan Africa, Caribbean, The Middle East and North Africa (MENA), Gulf Cooperation Council (GCC) or any other.

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Bearing Temperature Sensors Market Segmentation

By Product

Thermocouples

Resistance Temperature Detectors

Infrared Sensors

By Application

Industrial Equipment

Automotive

Aerospace

HVAC

By End User

Manufacturing

Oil and Gas

Power Generation

Transportation

By Technology

Contact

Non-contact

By Geography

North America (USA, Canada, Mexico)

Europe (Germany, UK, France, Spain, Italy, Rest of Europe)

Asia-Pacific (China, India, Japan, Australia, Vietnam, Rest of APAC)

The Middle East and Africa (Middle East, Africa)

South and Central America (Brazil, Argentina, Rest of SCA)

Top Companies Analysed

Schaeffler Technologies AG & Co. KG

SKF Group

NTN Corporation

Timken Company

ABB Ltd.

TE Connectivity Ltd.

Honeywell International Inc.

Siemens AG

Pr?ftechnik Dieter Busch AG (Fluke)

Emerson Electric Co.

General Electric Company

Omron Corporation

Analog Devices Inc.

Pepperl+Fuchs AG

PCB Piezotronics, Inc.

Contents

1. TABLE OF CONTENTS

- 1.1 List of Tables
- 1.2 List of Figures

2. BEARING TEMPERATURE SENSORS MARKET LATEST TRENDS, DRIVERS AND CHALLENGES, 2024- 2034

- 2.1 Bearing Temperature Sensors Market Overview
- 2.2 Market Strategies of Leading Bearing Temperature Sensors Companies
- 2.3 Bearing Temperature Sensors Market Insights, 2024- 2034
 - 2.3.1 Leading Bearing Temperature Sensors Types, 2024- 2034
 - 2.3.2 Leading Bearing Temperature Sensors End-User industries, 2024- 2034
 - 2.3.3 Fast-Growing countries for Bearing Temperature Sensors sales, 2024- 2034
- 2.4 Bearing Temperature Sensors Market Drivers and Restraints
 - 2.4.1 Bearing Temperature Sensors Demand Drivers to 2034
 - 2.4.2 Bearing Temperature Sensors Challenges to 2034
- 2.5 Bearing Temperature Sensors Market- Five Forces Analysis
 - 2.5.1 Bearing Temperature Sensors Industry Attractiveness Index, 2024
 - 2.5.2 Threat of New Entrants
 - 2.5.3 Bargaining Power of Suppliers
 - 2.5.4 Bargaining Power of Buyers
 - 2.5.5 Intensity of Competitive Rivalry
 - 2.5.6 Threat of Substitutes

3. GLOBAL BEARING TEMPERATURE SENSORS MARKET VALUE, MARKET SHARE, AND FORECAST TO 2034

- 3.1 Global Bearing Temperature Sensors Market Overview, 2024
- 3.2 Global Bearing Temperature Sensors Market Revenue and Forecast, 2024- 2034 (US\$ Million)
- 3.3 Global Bearing Temperature Sensors Market Size and Share Outlook By Product, 2024- 2034
- 3.4 Global Bearing Temperature Sensors Market Size and Share Outlook By Application, 2024- 2034
- 3.5 Global Bearing Temperature Sensors Market Size and Share Outlook By End User, 2024- 2034

3.6 Global Bearing Temperature Sensors Market Size and Share Outlook By Technology, 2024- 2034

3.7 Global Bearing Temperature Sensors Market Size and Share Outlook by Region, 2024- 2034

4. ASIA PACIFIC BEARING TEMPERATURE SENSORS MARKET VALUE, MARKET SHARE AND FORECAST TO 2034

4.1 Asia Pacific Bearing Temperature Sensors Market Overview, 2024

4.2 Asia Pacific Bearing Temperature Sensors Market Revenue and Forecast, 2024- 2034 (US\$ Million)

4.3 Asia Pacific Bearing Temperature Sensors Market Size and Share Outlook By Product, 2024- 2034

4.4 Asia Pacific Bearing Temperature Sensors Market Size and Share Outlook By Application, 2024- 2034

4.5 Asia Pacific Bearing Temperature Sensors Market Size and Share Outlook By End User, 2024- 2034

4.6 Asia Pacific Bearing Temperature Sensors Market Size and Share Outlook By Technology, 2024- 2034

4.7 Asia Pacific Bearing Temperature Sensors Market Size and Share Outlook by Country, 2024- 2034

5. EUROPE BEARING TEMPERATURE SENSORS MARKET VALUE, MARKET SHARE, AND FORECAST TO 2034

5.1 Europe Bearing Temperature Sensors Market Overview, 2024

5.2 Europe Bearing Temperature Sensors Market Revenue and Forecast, 2024- 2034 (US\$ Million)

5.3 Europe Bearing Temperature Sensors Market Size and Share Outlook By Product, 2024- 2034

5.4 Europe Bearing Temperature Sensors Market Size and Share Outlook By Application, 2024- 2034

5.5 Europe Bearing Temperature Sensors Market Size and Share Outlook By End User, 2024- 2034

5.6 Europe Bearing Temperature Sensors Market Size and Share Outlook By Technology, 2024- 2034

5.7 Europe Bearing Temperature Sensors Market Size and Share Outlook by Country, 2024- 2034

6. NORTH AMERICA BEARING TEMPERATURE SENSORS MARKET VALUE, MARKET SHARE AND FORECAST TO 2034

6.1 North America Bearing Temperature Sensors Market Overview, 2024

6.2 North America Bearing Temperature Sensors Market Revenue and Forecast, 2024-2034 (US\$ Million)

6.3 North America Bearing Temperature Sensors Market Size and Share Outlook By Product, 2024- 2034

6.4 North America Bearing Temperature Sensors Market Size and Share Outlook By Application, 2024- 2034

6.5 North America Bearing Temperature Sensors Market Size and Share Outlook By End User, 2024- 2034

6.6 North America Bearing Temperature Sensors Market Size and Share Outlook By Technology, 2024- 2034

6.7 North America Bearing Temperature Sensors Market Size and Share Outlook by Country, 2024- 2034

7. SOUTH AND CENTRAL AMERICA BEARING TEMPERATURE SENSORS MARKET VALUE, MARKET SHARE AND FORECAST TO 2034

7.1 South and Central America Bearing Temperature Sensors Market Overview, 2024

7.2 South and Central America Bearing Temperature Sensors Market Revenue and Forecast, 2024- 2034 (US\$ Million)

7.3 South and Central America Bearing Temperature Sensors Market Size and Share Outlook By Product, 2024- 2034

7.4 South and Central America Bearing Temperature Sensors Market Size and Share Outlook By Application, 2024- 2034

7.5 South and Central America Bearing Temperature Sensors Market Size and Share Outlook By End User, 2024- 2034

7.6 South and Central America Bearing Temperature Sensors Market Size and Share Outlook By Technology, 2024- 2034

7.7 South and Central America Bearing Temperature Sensors Market Size and Share Outlook by Country, 2024- 2034

8. MIDDLE EAST AFRICA BEARING TEMPERATURE SENSORS MARKET VALUE, MARKET SHARE AND FORECAST TO 2034

8.1 Middle East Africa Bearing Temperature Sensors Market Overview, 2024

8.2 Middle East and Africa Bearing Temperature Sensors Market Revenue and

Forecast, 2024- 2034 (US\$ Million)

8.3 Middle East Africa Bearing Temperature Sensors Market Size and Share Outlook By Product, 2024- 2034

8.4 Middle East Africa Bearing Temperature Sensors Market Size and Share Outlook By Application, 2024- 2034

8.5 Middle East Africa Bearing Temperature Sensors Market Size and Share Outlook By End User, 2024- 2034

8.6 Middle East Africa Bearing Temperature Sensors Market Size and Share Outlook By Technology, 2024- 2034

8.7 Middle East Africa Bearing Temperature Sensors Market Size and Share Outlook by Country, 2024- 2034

9. BEARING TEMPERATURE SENSORS MARKET STRUCTURE

9.1 Key Players

9.2 Bearing Temperature Sensors Companies - Key Strategies and Financial Analysis

9.2.1 Snapshot

9.2.3 Business Description

9.2.4 Products and Services

9.2.5 Financial Analysis

10. BEARING TEMPERATURE SENSORS INDUSTRY RECENT DEVELOPMENTS

11 APPENDIX

11.1 Publisher Expertise

11.2 Research Methodology

11.3 Annual Subscription Plans

11.4 Contact Information

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