

# **Thermo Couple Temperature Sensor Market –Global Industry Size, Share, Trends, Opportunity, and Forecast, 2018-2028F Segmented By Type (Base Metal Thermocouple and Noble Metal Thermocouple), By Application (Power Generations, Food & Beverages, Automotive and Oil & Gas, Petrochemicals and Chemicals Metals and Mining, Aerospace and Others), By Construction Type (Grounded Thermocouples, Exposed Thermocouples, Ungrounded Thermocouples), By Region, Competition**

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## **Abstracts**

Global Thermo Couple Temperature Sensor market is anticipated to grow at a steady pace in the forecast period 2024-2028 owing to the growing usage of thermocouples as temperature sensors across industrial verticals. With improvements in automated technology, many heating systems, such as furnaces and boilers, now include temperature sensors, of which thermocouples are an important component, further contributing towards the market expansion. Because of their low cost, high temperature limits, wide temperature ranges, and durability, thermocouples are widely employed in sectors such as automotive, oil & gas, and power production, among others. The expanding usage of thermocouples as temperature sensors across industrial verticals is driving the growth of thermocouples in the global market. With improvements in automated technology, many heating systems, such as furnaces and boilers, now include temperature sensors, of which thermocouples are an important component, thus helping in the market expansion. Thermocouples are widely employed in sectors such as automotive, oil & gas, and power production, among others, because of their low

cost, high temperature limits, wide temperature ranges, and durability.

Thermocouple temperature sensors are widely used in the automotive industry, primarily for automatic transmission systems and thermal management. Thus, strict emission regulations imposed by authorities, advancements in the autonomous segment, and increasing global penetration of electric vehicles (EV) are the major factors driving the market.

### Rising Demand from the Automotive Industry is Boosting the Market Growth of Thermocouples

The growing applications in the automobile industry are driving the global market for thermocouples. Thermocouples are widely utilized in autos and automotive parts such as spark plugs, cylinder heads, car batteries, and brake discs, to monitor and record critical information giving the market a significant boost. Furthermore, due to the miniaturization of smart sensor technology, thermocouple temperature sensors are utilized for safety and precise measurements of smart automobile equipment, as well as to create and analyze rapid sensor data. Therefore, the thriving automobile sector is driving thermocouple market expansion in the global market.

### The Dangers of Using Temperature Sensors in Dangerous Environments

Products, equipment, and systems that operate in extreme conditions are only as reliable as their weakest link. Temperature sensors employed in such systems are often the weak link, causing significant disruption and downtime. This is true in many industrial applications, including oil and gas, aerospace, HVAC, metal processing, power generation, and water treatment. Extreme temperature, physical shock or vibration, humidity, corrosion, and radiation are all common environmental factors that tend to deteriorate sensors.

### Non-Contact Temperature Sensors are Posing a Challenge to Traditional Temperature Sensors.

Non-contact temperature sensors enable engineers to acquire precise temperature measurements in settings where other types of sensors are either impossible or extremely difficult to use. This is often because the application itself damages a contact-type sensor, such as when measuring molten metal with a thermocouple or resistance temperature detector. In traditional sensors, if the electrical interference is strong, as in induction heating, the electromagnetic field surrounding the item will provide erroneous

findings. Both issues are avoided by using a remote infrared sensor. This is another key factor responsible for the growth of the Thermo Couple Temperature Sensor Market.

## Market Segmentation

Global Thermo Couple Temperature Sensor Market is segmented By Type, By Application and By Construction Type. Based on Type, the market is segmented into Base Metal Thermocouple and Noble Metal Thermocouple. Based on Application, the market is segmented into Power Generations, Food & Beverages, Automotive and Oil & Gas, Petrochemicals and Chemicals Metals and Mining, Aerospace, and Others, Others also includes electrical, life science, plastics, and water and wastewater management. Based on Construction Type, the market is segmented into Grounded Thermocouples, Exposed Thermocouples and Ungrounded Thermocouples.

## Market player

Major market players in the Global Thermo Couple Temperature Sensor Market are Honeywell International Inc, ABB Ltd, Analog Devices, Inc, Emersion Electric Co, Kongsberg Gruppen ASA, Maxim Integrated Products, Inc, Microchip Technology, Inc, Mouser Electronics, Inc, Nxp Semiconductors Nv, Texas Instruments, Inc.

## Report Scope:

In this report, the Global Thermo Couple Temperature Sensor Market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:

### Thermo Couple Temperature Sensor Market, By Type:

Base Metal Thermocouple

Noble Metal Thermocouple

### Thermo Couple Temperature Sensor Market, By Application:

Power Generations

Food & Beverages

Automotive

Petrochemicals and Chemicals

Metals and Mining

Aerospace

Oil & Gas

Others

Thermo Couple Temperature Sensor Market, By Construction Type:

Grounded Thermocouples

Gyroscopes

Wireless Systems

Thermo Couple Temperature Sensor Market, By Region:

North America

United States

Canada

Mexico

Asia-Pacific

China

India

Japan

South Korea

Australia

Singapore

Malaysia

Europe

Germany

United Kingdom

France

Russia

Switzerland

Belgium

Italy

South America

Brazil

Argentina

Colombia

Peru

Chile

Middle East & Africa

Saudi Arabia

South Africa

UAE

Israel

Turkey

### Competitive Landscape

Company Profiles: Detailed analysis of the major companies present in the Global Thermo Couple Temperature Sensor Market.

### Available Customizations:

Global Thermo Couple Temperature Sensor Market report with the given market data, Tech Sci 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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