

# **Electrical Resistor Market by Product (Fixed Resistor, Variable Resistor), Application (Electric Motor, Driver, Inverter, and Others), Industry Vertical (Consumer Electronics, IT and Telecommunication, Automotive, Industrial, Healthcare, and Others), and Region 2024-2032**

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## **Abstracts**

The global electrical resistor market size reached US\$ 6.0 Billion in 2023. Looking forward, IMARC Group expects the market to reach US\$ 9.6 Billion by 2032, exhibiting a growth rate (CAGR) of 5.1% during 2024-2032. The escalating demand for power generation and electricity distribution, considerable rise in construction activities, and the widespread adoption of electric vehicles (EVs) represent some of the key factors driving the market.

An electrical resistor refers to a passive two-terminal electrical component that is made of copper wires. It is coiled around a ceramic rod and the outer part of the resistor is coated with insulating paint. The main purpose of a resistor is to manage and regulate current flow and to lower the voltage in any particular portion of the circuit. In addition to preventing an excessive influx of current, the device adjusts signal levels, terminates transmission lines, and biases active elements by restricting electron flow or electric current to a certain level. Electrical resistors are free standing or integrated into the control circuitry of electrical motors for controlling numerous operations. Their independent operation without requiring external voltage sources makes them a convenient component of motor controls or as test loads for generators. Besides adjusting circuit elements and sensing heat and force, they are also used in regenerative electric braking, chemical activity, and advanced driver assistance systems.

### Electrical Resistor Market Trends:

The market is primarily driven by the escalating demand for power generation and electricity distribution across the globe. This can be attributed to a considerable rise in construction activities and developing infrastructure across the globe. In addition to this, the increasing usage of smartphones, tablets, laptops and other electrical appliances on the global level is positively impacting the market growth. Moreover, the continual technological advancements in the manufacturing of electrical components, including batteries, fuel cells, and electromechanical systems, are resulting in a higher product uptake in the electrical and electronics sector. Besides this, the rapid utilization of electrical resistors for traction applications in electric locomotives for the expansion of rail networks is providing an impetus to the market. The market is further propelled by the rising adoption of electric vehicles (EVs) among the masses due to an enhanced focus on sustainable development. Apart from this, growing investments by the government bodies of several countries promoting smart city development and infrastructure automation are further creating a positive outlook for the market. Some of the other factors contributing to the market include rapid urbanization, the rising usage of solar power converters for power generation, the advent of 5G technology, and extensive research and development (R&D) activities.

### Key Market Segmentation:

IMARC Group provides an analysis of the key trends in each segment of the global electrical resistor market, along with forecasts at the global, regional, and country level from 2024-2032. Our report has categorized the market based on product, application and industry vertical.

### Product Insights

Fixed Resistor

Variable Resistor

The report has provided a detailed breakup and analysis of the electrical resistor market based on the product. This includes fixed resistor and variable resistor. According to the report, variable resistor represented the largest segment.

### Application Insights

Electric Motor

Driver

Inverter  
Others

The report has provided a detailed breakup and analysis of the electrical resistor market based on the application. This includes electric motor, driver, inverter, and others. According to the report, electric motor represented the largest segment.

#### Industry Vertical Insights

Consumer Electronics  
IT and Telecommunication  
Automotive  
Industrial  
Healthcare  
Others

A detailed breakup and analysis of the electrical resistor market based on the industry vertical has also been provided in the report. This includes consumer electronics, IT and telecommunication, automotive, industrial, healthcare, and others. According to the report, consumer electronics accounted for the largest market share.

#### Regional Insights

North America  
United States  
Canada  
Asia Pacific  
China  
Japan  
India  
South Korea  
Australia  
Indonesia  
Others  
Europe  
Germany  
France  
United Kingdom  
Italy

Spain  
Russia  
Others  
Latin America  
Brazil  
Mexico  
Others  
Middle East and Africa

The report has also provided a comprehensive analysis of all the major regional markets that include North America (the United States and Canada); Asia Pacific (China, Japan, India, South Korea, Australia, Indonesia, and others); Europe (Germany, France, the United Kingdom, Italy, Spain, Russia, and others); Latin America (Brazil, Mexico, and others); and Middle East and Africa. According to the report, Asia Pacific was the largest market for electrical resistor. Some of the factors driving the Asia Pacific electrical resistor market include the rising adoption of electric vehicles (EVs), increasing usage of smartphones, tablets, laptops and other electrical appliances, growing investments in smart city development and infrastructure automation, etc.

#### Competitive Landscape:

The report has also provided a comprehensive analysis of the competitive landscape in the global electrical resistor market. Detailed profiles of all major companies have also been provided. Some of the companies covered include Bourns Inc., Cressall Resistors Ltd., Japan Resistor Mfg. Co. Ltd., KOA Speer Electronics Inc. (KOA Corporation), Murata Manufacturing Co. Ltd., TE Connectivity, Viking Tech Corporation, Vishay Intertechnology Inc., YAGEO Group, Zonkas Electronic Co. Ltd., etc.

#### Key Questions Answered in This Report

1. How big is the global electrical resistor market?
2. What is the expected growth rate of the global electrical resistor market during 2024-2032?
3. What are the key factors driving the global electrical resistor market?
4. What has been the impact of COVID-19 on the global electrical resistor market?
5. What is the breakup of the global electrical resistor market based on the product?
6. What is the breakup of the global electrical resistor market based on the application?
7. What is the breakup of the global electrical resistor market based on industry vertical?
8. What are the key regions in the global electrical resistor market?
9. Who are the key players/companies in the global electrical resistor market?

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