

Encoder Market by Encoder Type (Linear, Rotary), Signal Type (Incremental, Absolute), Technology, Application (Industrial, HC, Consumer Electronics, Automotive, Power, FnB, Aerospace, Printing, Textile) Region - Global Forecast to 2028

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Abstracts

The encoder market is valued at USD 2.7 billion in 2023 and is projected to reach USD 4.5 billion by 2028, growing at a CAGR of 11.0% from 2023 to 2028. Some of the major factors driving the growth of the encoder market include the growing expansion of automotive markets worldwide and the rising need for high-end automation across industries. However, mechanical failure in harsh environments will be a challenge for the market in the future. The major growth opportunities for the market players are increasing demand for machine learning and artificial intelligence-based systems.

“Market for linear encoder to witness significant growth during the forecast period.”

The linear encoder segment is expected to witness significant growth in the encoder market during the forecast period. Linear encoder senses and digitizes a change in the linear position or movement of a product, pin, or equipment. It is used to detect speed, distance, direction, and displacement. It can also conduct position measurements by sending feedback to control systems. The sensor reads the scale to convert the encoded position into an analog or digital signal, which can then be decoded into position by a digital readout (DRO) or motion controller. The linear encoder determines positions without needing mechanical actuators, eliminating several error sources due to its non-contact principle.

“Market for the incremental encoders is expected to hold the significant share during the forecast period.”

An incremental encoder determines the position and speed by a train of pulses. It transforms the angular position or motion of the shaft into digital or pulse signals using an optical disk. One of the main properties of incremental encoders is that the pulse is counted from zero every time the encoder is switched on as the position is not stored, thus needing a reset or a reference point before counting again. Some advantages associated with incremental encoders include cost-effectiveness, less complexity, and high noise immunity. It also provides excellent speed and distance feedback. The incremental encoder is designed to be versatile and customizable to fit into various applications (servo/light industrial or heavy-duty applications) to determine positioning and motor speed feedback.

“Market for healthcare application segment to witness the highest growth during the forecast period.”

The healthcare application is expected to record the highest CAGR in the encoder market during the forecast period. The healthcare sector depends on advanced techniques, including imaging, diagnostic scanning, and robotic surgeries, to provide the best possible care to patients. Medical device manufacturers are aware of the benefits of integrating encoder components and materials into life-saving medical devices such as respirators, ventilators, and atomization systems.

“Germany is expected to have the largest market size in Europe during the forecast period.”

Germany is one of the largest manufacturing hubs for automobile companies in Europe. Technological innovations in the automotive sector of the country contribute to the growth of the encoders market in Germany. As Germany has the largest automotive sector, it witnesses a higher consumption of encoders. Along with the automotive industry, encoders are also adopted in various other industrial, manufacturing, and healthcare applications.

In the process of determining and verifying the market size for several segments and subsegments gathered through secondary research, extensive primary interviews have been conducted with key industry experts in the encoders space. The break-up of primary participants for the report has been shown below:

By Company Type: Tier 1 – 52%, Tier 2 – 31%, and Tier 3 – 17%

By Designation: C-level Executives – 47%, Directors –31%, and Others – 22%

By Region: North America –36%, Europe – 29%, Asia Pacific– 30%, and RoW – 5%

The report profiles key players in the encoders market with their respective market ranking analysis. Prominent players profiled in this report include Sensata Technologies (US); HEIDENHAIN (Germany); Fortive (Dynapar) (US); Renishaw plc (UK); Mitutoyo Corporation (Japan); FRABA B.V. (Netherlands); ifm electronic (Germany); Pepperl+Fuchs (Germany); Maxon (Switzerland). Apart from these, Pilz GmbH & Co. KG (Germany); Tamagawa Seiki Co., Ltd (Japan), Faulhaber Group (Germany); Baumer (Switzerland); Koyo Electronics Industries Co., Ltd (Japan); Schneider Electric (France); Omron Corporation (Japan); Rockwell Automation (US); Sick AG (Germany); Kubler Group (Germany); are among a few other key companies in the encoder market.

Report Coverage

The report defines, describes, and forecasts the encoder market based on type, signal type, technology, and region. It provides detailed information regarding drivers, restraints, opportunities, and challenges influencing the growth of the encoder market. It also analyzes competitive developments such as product launches, acquisitions, expansions, contracts, partnerships, and actions carried out by the key players to grow in the market.

Reasons to Buy This Report

The report will help the market leaders/new entrants in the market with information on the closest approximations of the revenue for the overall encoder market and the subsegments. The report will help stakeholders understand the competitive landscape and gain more insight to position their business better and plan suitable go-to-market strategies. The report also helps stakeholders understand the pulse of the market and provide them with information on key drivers, restraints, opportunities, and challenges.

The report will provide insights into the following pointers:

Analysis of key drivers (Rising need for high-end automation across industries), restraints (Variations in international regulations), opportunities (Rising government initiatives to boost industrial automation), and challenges

(Mechanical failure in harsh environments) of the encoder market.

Product development /Innovation: Detailed insights on upcoming technologies, research & development activities, and new product & service launches in the encoder market.

Market Development: Comprehensive information about lucrative markets; the report analyses the encoder market across various regions.

Market Diversification: Exhaustive information about new products & services, untapped geographies, recent developments, and investments in the encoder market.

Competitive Assessment: In-depth assessment of market share, growth strategies, and services, offering of leading players like Sensata Technologies (US); HEIDENHAIN (Germany); Fortive (Dynapar) (US); Renishaw plc (UK); Mitutoyo Corporation (Japan) among others in encoder market.

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