

Encoder Market Size and Share Outlook - Forecast Trends and Growth Analysis Report (2025-2034)

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Report description:

The global encoder market attained a value of nearly USD 2.42 Billion in 2024 . The market is further expected to grow in the forecast period of 2025-2034 at a CAGR of 8.00% to reach nearly USD 5.22 Billion by 2034 .

Flourishing Robotics Industry Aiding the Growth of the Encoder Industry

Encoders are used widely in many industries to facilitate production and ensure precision. They are used in the flourishing food and beverage industry for filling, conveying, motor feedback, x-y positioning, and registration mark timing, among others, which is aiding the market growth. Encoders are also used to implement the Internet of Things (IoT) to receive both position and information; consequently, catalysing the market growth. Moreover, the increasing use of computer numerical control (CNC) machines is also catalysing the encoder industry. The robust growth of the robotics industry and the extensive use of encoders in it are further propelling the market growth. Increasing research and development (R&D) in computing and technologies have enabled the maintenance and installation of robots more easily and cost-effectively, consequently augmenting the market growth for encoders.

Additionally, encoders are extensively used to ensure the precision of the automated machines such as automated guided vehicles (AGV) or autonomous mobile robots (AMR) , for various functions such as redundancy, lift control, steering assembly, and drive motors. The use of encoders to determine position, speed, count, and direction is further augmenting the market growth for encoders. The rising production and surging popularity of automated cars also account for the growth of the encoder industry. Encoders are increasingly used to improve consumer experience by providing real-time speed, rotational positional information, and acceleration, further fuelling the market growth.

Encoder: Market Segmentation

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An encoder is a device that converts data from one format to another. It converts motion to an electric signal which can be read by control devices such as counter or PLC. It also sends a feedback signal which can determine position, speed, count, and direction.

The major types of encoder are

- Rotary Encoder
- Linear Encoder

The market can be broadly categorised on the basis of its technology into

- Optical
- Magnetic
- Photoelectric
- Others

Based on the end use, the market is segmented into

- Automotive
- Electronics
- Textile
- Printing Machinery
- Industrial
- Pharmaceuticals
- Others

The EMR report looks into the regional markets of encoder

- North America
- Europe
- Asia Pacific
- Latin America
- Middle East and Africa

Increasing Automation to Bolster the Growth of the Encoder Industry

Surging automation in various industries such as automobiles, healthcare, food and beverage, aerospace, packaging, and electronics, among others, is driving the market growth. As encoders convert motion into electrical feedback signals to measure changes in position, speed, count, direction, and linear distance, they are extensively used in various automated applications. The use of encoders to improve performance, productivity, and reduce costs in the automotive industry is further propelling the market growth. The development and surging production of automotive vehicles, especially cars, equipped with superior technology and features such as Bluetooth and cellular technology use encoders to determine the position and location-based prompts, which is expected to aid the market growth in the forecast period.

The digitisation of the healthcare sector and the increasing demand for medical professionals are boosting the demand for integrating specialised knowledge, skills, and experience with new technology. Encoders not only reduce the risk for medical errors but also aid in developing new lab procedures. The use of rotary encoders in precise medical imaging through CT and MRI

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machinery is also augmenting the market growth. Moreover, radiation therapy uses encoders as it requires linear and angular technology, further invigorating the market growth. The use of encoders in precise portable medical devices offering great resolution and high accuracy is further anticipated to catalyse the industry growth in the forecast period.

Key Industry Players in the Global Encoder Market

The report presents a detailed analysis of the following key players in the global encoder market, looking into their capacity, market shares, and latest developments like capacity expansions, plant turnarounds, and mergers and acquisitions:

- OMRON Corporation
- Schneider Electric
- Rockwell Automation, Inc.
- Panasonic Corporation
- Sensata Technologies, Inc.
- Baumer Group
- Others

The comprehensive report looks into the macro and micro aspects of the industry. The EMR report gives an in-depth insight into the market by providing a SWOT analysis as well as an analysis of Porter's Five Forces model.

Table of Contents:

- 1 Executive Summary
 - 1.1 Market Size 2024-2025
 - 1.2 Market Growth 2025(F)-2034(F)
 - 1.3 Key Demand Drivers
 - 1.4 Key Players and Competitive Structure
 - 1.5 Industry Best Practices
 - 1.6 Recent Trends and Developments
 - 1.7 Industry Outlook
- 2 Market Overview and Stakeholder Insights
 - 2.1 Market Trends
 - 2.2 Key Verticals
 - 2.3 Key Regions
 - 2.4 Supplier Power
 - 2.5 Buyer Power
 - 2.6 Key Market Opportunities and Risks
 - 2.7 Key Initiatives by Stakeholders
- 3 Economic Summary
 - 3.1 GDP Outlook
 - 3.2 GDP Per Capita Growth
 - 3.3 Inflation Trends
 - 3.4 Democracy Index
 - 3.5 Gross Public Debt Ratios
 - 3.6 Balance of Payment (BoP) Position
 - 3.7 Population Outlook

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- 3.8 Urbanisation Trends
- 4 Country Risk Profiles
 - 4.1 Country Risk
 - 4.2 Business Climate
- 5 Global Encoder Market Analysis
 - 5.1 Key Industry Highlights
 - 5.2 Global Encoder Historical Market (2018-2024)
 - 5.3 Global Encoder Market Forecast (2025-2034)
 - 5.4 Global Encoder Market by Type
 - 5.4.1 Rotary Encoder
 - 5.4.1.1 Historical Trend (2018-2024)
 - 5.4.1.2 Forecast Trend (2025-2034)
 - 5.4.2 Linear Encoder
 - 5.4.2.1 Historical Trend (2018-2024)
 - 5.4.2.2 Forecast Trend (2025-2034)
 - 5.5 Global Encoder Market by Technology
 - 5.5.1 Optical
 - 5.5.1.1 Historical Trend (2018-2024)
 - 5.5.1.2 Forecast Trend (2025-2034)
 - 5.5.2 Magnetic
 - 5.5.2.1 Historical Trend (2018-2024)
 - 5.5.2.2 Forecast Trend (2025-2034)
 - 5.5.3 Photoelectric
 - 5.5.3.1 Historical Trend (2018-2024)
 - 5.5.3.2 Forecast Trend (2025-2034)
 - 5.5.4 Others
 - 5.6 Global Encoder Market by End Use
 - 5.6.1 Automotive
 - 5.6.1.1 Historical Trend (2018-2024)
 - 5.6.1.2 Forecast Trend (2025-2034)
 - 5.6.2 Electronics
 - 5.6.2.1 Historical Trend (2018-2024)
 - 5.6.2.2 Forecast Trend (2025-2034)
 - 5.6.3 Textile
 - 5.6.3.1 Historical Trend (2018-2024)
 - 5.6.3.2 Forecast Trend (2025-2034)
 - 5.6.4 Printing Machinery
 - 5.6.4.1 Historical Trend (2018-2024)
 - 5.6.4.2 Forecast Trend (2025-2034)
 - 5.6.5 Industrial
 - 5.6.5.1 Historical Trend (2018-2024)
 - 5.6.5.2 Forecast Trend (2025-2034)
 - 5.6.6 Pharmaceuticals
 - 5.6.6.1 Historical Trend (2018-2024)
 - 5.6.6.2 Forecast Trend (2025-2034)
 - 5.6.7 Others
 - 5.7 Global Encoder Market by Region

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- 5.7.1 North America
 - 5.7.1.1 Historical Trend (2018-2024)
 - 5.7.1.2 Forecast Trend (2025-2034)
- 5.7.2 Europe
 - 5.7.2.1 Historical Trend (2018-2024)
 - 5.7.2.2 Forecast Trend (2025-2034)
- 5.7.3 Asia Pacific
 - 5.7.3.1 Historical Trend (2018-2024)
 - 5.7.3.2 Forecast Trend (2025-2034)
- 5.7.4 Latin America
 - 5.7.4.1 Historical Trend (2018-2024)
 - 5.7.4.2 Forecast Trend (2025-2034)
- 5.7.5 Middle East and Africa
 - 5.7.5.1 Historical Trend (2018-2024)
 - 5.7.5.2 Forecast Trend (2025-2034)
- 6 North America Encoder Market Analysis
 - 6.1 United States of America
 - 6.1.1 Historical Trend (2018-2024)
 - 6.1.2 Forecast Trend (2025-2034)
 - 6.2 Canada
 - 6.2.1 Historical Trend (2018-2024)
 - 6.2.2 Forecast Trend (2025-2034)
- 7 Europe Encoder Market Analysis
 - 7.1 United Kingdom
 - 7.1.1 Historical Trend (2018-2024)
 - 7.1.2 Forecast Trend (2025-2034)
 - 7.2 Germany
 - 7.2.1 Historical Trend (2018-2024)
 - 7.2.2 Forecast Trend (2025-2034)
 - 7.3 France
 - 7.3.1 Historical Trend (2018-2024)
 - 7.3.2 Forecast Trend (2025-2034)
 - 7.4 Italy
 - 7.4.1 Historical Trend (2018-2024)
 - 7.4.2 Forecast Trend (2025-2034)
 - 7.5 Others
- 8 Asia Pacific Encoder Market Analysis
 - 8.1 China
 - 8.1.1 Historical Trend (2018-2024)
 - 8.1.2 Forecast Trend (2025-2034)
 - 8.2 Japan
 - 8.2.1 Historical Trend (2018-2024)
 - 8.2.2 Forecast Trend (2025-2034)
 - 8.3 India
 - 8.3.1 Historical Trend (2018-2024)
 - 8.3.2 Forecast Trend (2025-2034)
 - 8.4 ASEAN

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- 8.4.1 Historical Trend (2018-2024)
- 8.4.2 Forecast Trend (2025-2034)
- 8.5 Australia
 - 8.5.1 Historical Trend (2018-2024)
 - 8.5.2 Forecast Trend (2025-2034)
- 8.6 Others
- 9 Latin America Encoder Market Analysis
 - 9.1 Brazil
 - 9.1.1 Historical Trend (2018-2024)
 - 9.1.2 Forecast Trend (2025-2034)
 - 9.2 Argentina
 - 9.2.1 Historical Trend (2018-2024)
 - 9.2.2 Forecast Trend (2025-2034)
 - 9.3 Mexico
 - 9.3.1 Historical Trend (2018-2024)
 - 9.3.2 Forecast Trend (2025-2034)
 - 9.4 Others
- 10 Middle East and Africa Encoder Market Analysis
 - 10.1 Saudi Arabia
 - 10.1.1 Historical Trend (2018-2024)
 - 10.1.2 Forecast Trend (2025-2034)
 - 10.2 United Arab Emirates
 - 10.2.1 Historical Trend (2018-2024)
 - 10.2.2 Forecast Trend (2025-2034)
 - 10.3 Nigeria
 - 10.3.1 Historical Trend (2018-2024)
 - 10.3.2 Forecast Trend (2025-2034)
 - 10.4 South Africa
 - 10.4.1 Historical Trend (2018-2024)
 - 10.4.2 Forecast Trend (2025-2034)
 - 10.5 Others
- 11 Market Dynamics
 - 11.1 SWOT Analysis
 - 11.1.1 Strengths
 - 11.1.2 Weaknesses
 - 11.1.3 Opportunities
 - 11.1.4 Threats
 - 11.2 Porter's Five Forces Analysis
 - 11.2.1 Supplier's Power
 - 11.2.2 Buyer's Power
 - 11.2.3 Threat of New Entrants
 - 11.2.4 Degree of Rivalry
 - 11.2.5 Threat of Substitutes
 - 11.3 Key Indicators for Demand
 - 11.4 Key Indicators for Price
- 12 Competitive Landscape
 - 12.1 Supplier Selection

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- 12.2 Key Global Players
- 12.3 Key Regional Players
- 12.4 Key Player Strategies
- 12.5 Company Profiles
 - 12.5.1 OMRON Corporation
 - 12.5.1.1 Company Overview
 - 12.5.1.2 Product Portfolio
 - 12.5.1.3 Demographic Reach and Achievements
 - 12.5.1.4 Certifications
 - 12.5.2 Schneider Electric
 - 12.5.2.1 Company Overview
 - 12.5.2.2 Product Portfolio
 - 12.5.2.3 Demographic Reach and Achievements
 - 12.5.2.4 Certifications
 - 12.5.3 Rockwell Automation, Inc.
 - 12.5.3.1 Company Overview
 - 12.5.3.2 Product Portfolio
 - 12.5.3.3 Demographic Reach and Achievements
 - 12.5.3.4 Certifications
 - 12.5.4 Panasonic Corporation
 - 12.5.4.1 Company Overview
 - 12.5.4.2 Product Portfolio
 - 12.5.4.3 Demographic Reach and Achievements
 - 12.5.4.4 Certifications
 - 12.5.5 Sensata Technologies, Inc.
 - 12.5.5.1 Company Overview
 - 12.5.5.2 Product Portfolio
 - 12.5.5.3 Demographic Reach and Achievements
 - 12.5.5.4 Certifications
 - 12.5.6 Baumer Group
 - 12.5.6.1 Company Overview
 - 12.5.6.2 Product Portfolio
 - 12.5.6.3 Demographic Reach and Achievements
 - 12.5.6.4 Certifications
 - 12.5.7 Others

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