Encoder - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)

Market Report | 2025-04-28 | 171 pages | Mordor Intelligence

AVAILABLE LICENSES:

- Single User License $4750.00
- Team License (1-7 Users) $5250.00
- Site License $6500.00
- Corporate License $8750.00

Report description:

The Encoder Market size is estimated at USD 3.32 billion in 2025, and is expected to reach USD 4.86 billion by 2030, at a CAGR of 7.91% during the forecast period (2025-2030).

The market is witnessing rapid growth due to the increasing demand for encoders in multiple applications, from data centers to telecommunication.

Key Highlights
- The need for high-end automation and Industry 4.0 are the major factors driving the growth of the market. Industry 4.0 describes the fourth industrial revolution, a new world where factory automation moves beyond manufacturing plants controlled by conventional information technology systems to a cloud-based infrastructure that permits big data analytics and the virtualization of production processes.
- Many countries worldwide have positively responded to Industry 4.0 by developing strategic initiatives to strengthen its implementation. For instance, SAMARTH Udyog Bharat 4.0 is an Industry 4.0 initiative of the Ministry of Heavy Industry & Public Enterprises, Government of India, under its scheme on Enhancement of Competitiveness in the Indian Capital Goods Sector. According to the UNCTAD, China and the United States are leaders in investment and capacity in Industry 4.0 technologies. They are home to the largest digital platforms, accounting for 90% of the market capitalization.
- Furthermore, encoders are central to motion control applications. They can offer feedback on position, speed, and direction to a controller or drive to increase the accuracy and reliability of a drive system. As technology advances, so do encoders, incorporating the latest developments in communications and networking and offering engineers tools to solve challenges they face across a diverse array of motion control applications.
- One of the most significant limitations of encoders is that they can be reasonably complex and comprise some delicate parts.

This makes them less tolerant of mechanical abuse and restricts their allowable temperature. One would be hard-pressed to find an optical encoder that will survive beyond 120□C. In addition to this, rising concern about functional safety issues, which is of significant importance in any motion control design, is also a notable limitation for the growth of the market as the acquisition of functional safety certification can be arduous, and there can be some errors associated with the functionality of the motion control encoders. Such limitations pose a challenge to the market's growth.
- Furthermore, the pandemic highlighted the importance of automation, and remote applications in manufacturing resulted in increased investments in automation, potentially boosting demand for various types of encoders. The rise of e-commerce and automation in sectors like warehousing and logistics is anticipated to drive demand for encoders in these applications.

Encoder Market Trends

The Industrial Sector is Expected to Hold a Major Share in the Market

- The use of encoders is rapidly growing in multiple industrial applications, such as linear measurement, registration mark timing, web tensioning, backstop gauging, conveying, and filling. The most standard application is providing feedback on the motion control of electric motors. In the industrial sector, a significant amount of electricity goes to electric power motors, most of which incorporate encoders.
- Robots are experiencing a growing number of application areas, especially for operations like welding, material handling, assembly, and grinding. Since there is typically limited human oversite or monitoring, these robots must have reliable encoders to help guide their movement. In robotics, encoders are essential for controlling robotic arms' and mobile robots' position and movement.
- According to IFR's World Robotics 2023 report, about 553,052 industrial robots were installed in factories across the world. Among the total installed industrial robots, 73% of all newly deployed robots were installed in Asia, 15% in Europe, and 10% in the Americas. China, Japan, the United States, the Republic of Korea, and Germany are among the top countries with a greater number of annual installations of industrial robots in key industries, including electrical/electronics, automotive, and metal and machinery. Such a rise in the adoption of automation in industries is expected to further fuel the demand for encoders in the market.
- As industrial automation rapidly gains momentum, the demand for encoders in various industrial applications is growing. Thus, to cater to this demand, vendors operating in the market are introducing new encoders for industrial applications. For instance, in June 2023, SICK launched a new linear encoder product family for high-precision detection of piston positions in hydraulic cylinders and monitoring linear movements in machines. This new linear encoder product line offers flexibility for countless industrial applications.

Asia-Pacific is Expected to Register the Fastest Growth

- Countries like China, India, and other Southeast Asian countries are experiencing rapid industrialization and expansion of their manufacturing bases, translating to a surge in demand for encoders used in industrial automation for precise positioning and control in robots, CNC machines, and assembly lines and factory machinery that used to improve productivity in various industrial equipment like conveyors and packaging machines.
- Governments across Asia-Pacific are actively promoting automation and Industry 4.0 initiatives, including China's "Made in China 2025" to reduce dependence on foreign technology imports and invest in innovations and India's "National Strategy for Manufacturing" to advocate self-reliance through the technological transformation of the production paradigm. Such initiatives are expected to fuel industrial activities with increased use of automation, creating the need for encoders in various applications.

- Moreover, the rapid expansion of the automotive industry is likely to propel the demand for encoders during the forecast period. The region has the presence of major global automotive manufacturers. Encoders are increasingly used in the manufacturing processes of automotive components and assembly lines. The rise in the production of electric vehicles in the region is expected to drive demand for encoders, as they are essential in advanced motor control and battery management systems.
- In January 2024, Suzuki Motor Corp. announced its plan to expand its operations in Gujarat, India, to nearly double its automotive manufacturing capacity, seeking to roll 4 million units off the assembly lines annually. The plant is planned to start operations in fiscal 2028 and is expected to increase its production capacity to 1 million units annually. Such growth in the automotive manufacturing plant expansion drives demand for encoders by necessitating increased automation, precision control in production lines, enhanced quality control systems, and optimized supply chain management.

Encoder Industry Overview

The encoder market comprises various players, such as Omron Corporation, Honeywell, Heidenhain GmbH, Baumer Group, and Posital Fraba Inc. Companies have the advantage of a large client base, enabling them to produce large volumes of encoders, a key factor in ensuring better profits and economies of scale in the sensor market. As strong brands are synonymous with good performance, long-standing players are expected to have the upper hand. Owing to their market penetration and the ability to offer advanced products, the competitive rivalry is expected to continue to be high.

In November 2023, Baumer, a global sensor and encoder solutions manufacturer, launched the absolute encoder EAM580RS, designed to deliver safety and performance in harsh applications, including mobile machinery and outdoor environments. Additionally, this safety-certified encoder would provide safe automation, which is cost-effective and easy to implement. The magnetic safety encoder has a stainless-steel casing for its protection from harsh outdoor environments, and it is able to withstand industrial factors, like vibrations and shock.

In August 2023, Dynapar, a manufacturer of encoders, launched HS35iQ Encoder with PulseIQ Technology, which is a new programmable hollow shaft encoder. This is a self-diagnosing feedback device with color-coded LEDs and digital output and offers a new way for OEM and end-users in heavy-duty machine applications to troubleshoot faulty encoders with access to encoder health status in real time.

Additional Benefits:

- The market estimate (ME) sheet in Excel format
- 3 months of analyst support

Table of Contents:

Encoder - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)

Market Report | 2025-04-28 | 171 pages | Mordor Intelligence

To place an Order with Scotts International:

- - Print this form
- - Complete the relevant blank fields and sign
- - Send as a scanned email to support@scotts-international.com

ORDER FORM:

Select license	License	Price
	Single User License	$4750.00
	Team License (1-7 Users)	$5250.00
	Site License	$6500.00
	Corporate License	$8750.00
	VAT	
	Total	

*Please circle the relevant license option. For any questions please contact support@scotts-international.com or 0048 603 394 346.

** VAT will be added at 23% for Polish based companies, individuals and EU based companies who are unable to provide a valid EU Vat Numbers.

Email*		Phone*	
First Name*		Last Name*	
Job title*			
Company Name*		EU Vat / Tax ID / NIP number*	
Address*		City*	
Zip Code*		Country*	
		Date	2026-03-04
		Signature