

# Global Collaborative Robot Encoders Supply, Demand and Key Producers, 2026-2032

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## Abstracts

The global Collaborative Robot Encoders market size is expected to reach \$ 234 million by 2032, rising at a market growth of 18.4% CAGR during the forecast period (2026-2032).

A collaborative robot encoder is a precision sensor used to measure joint position, speed, and direction in collaborative robots. It is a key component enabling high-precision motion control, safe human–robot interaction, collision detection, hand-guiding, and repeatability. Compared with conventional industrial robot encoders, cobot encoders emphasize high resolution, low latency, functional safety (SIL2/PLd), and redundant feedback. In 2025, global collaborative robot encoder production reached approximately 706.6 K Units. Upstream materials include optical gratings, LEDs, photodiodes, magnetic chips, ASICs, precision bearings, and housings. Downstream customers are collaborative robot OEMs and automation integrators including Universal Robots, KUKA, ABB, JAKA, AUBO, and Elite, serving electronics, automotive, new energy, medical, and research industries.

The collaborative robot encoder market is expanding rapidly in line with the strong growth of collaborative robots. The demand is shifting from incremental encoders toward absolute, safety-certified, and redundant architectures. Magnetic and inductive encoders are gaining share due to robustness and compactness, while optical encoders remain dominant in high-precision joints.

This report studies the global Collaborative Robot Encoders production, demand, key manufacturers, and key regions.

This report is a detailed and comprehensive analysis of the world market for

Collaborative Robot Encoders and provides market size (US\$ million) and Year-over-Year (YoY) Growth, considering 2025 as the base year. This report explores demand trends and competition, as well as details the characteristics of Collaborative Robot Encoders that contribute to its increasing demand across many markets.

### **Highlights and key features of the study**

Global Collaborative Robot Encoders total production and demand, 2021-2032, (K Units)

Global Collaborative Robot Encoders total production value, 2021-2032, (USD Million)

Global Collaborative Robot Encoders production by region & country, production, value, CAGR, 2021-2032, (USD Million) & (K Units), (based on production site)

Global Collaborative Robot Encoders consumption by region & country, CAGR, 2021-2032 & (K Units)

U.S. VS China: Collaborative Robot Encoders domestic production, consumption, key domestic manufacturers and share

Global Collaborative Robot Encoders production by manufacturer, production, price, value and market share 2021-2026, (USD Million) & (K Units)

Global Collaborative Robot Encoders production by Type, production, value, CAGR, 2021-2032, (USD Million) & (K Units)

Global Collaborative Robot Encoders production by Application, production, value, CAGR, 2021-2032, (USD Million) & (K Units)

This report profiles key players in the global Collaborative Robot Encoders market based on the following parameters - company overview, production, value, price, gross margin, product portfolio, geographical presence, and key developments. Key companies covered as a part of this study include Heidenhain, Dynapar, Tamagawa, Baumer, Pepperl+Fuchs, Renishaw, Avago Technologies (Broadcom), Sensata Technologies, Bourns, Balluff, etc.

This report also provides key insights about market drivers, restraints, opportunities, new product launches or approvals.

Stakeholders would have ease in decision-making through various strategy matrices used in analyzing the World Collaborative Robot Encoders market

### **Detailed Segmentation:**

Each section contains quantitative market data including market by value (US\$ Millions), volume (production, consumption) & (K Units) and average price (US\$/Unit) by manufacturer, by Type, and by Application. Data is given for the years 2021-2032 by year with 2025 as the base year, 2026 as the estimate year, and 2027-2032 as the forecast year.

### Global Collaborative Robot Encoders Market, By Region:

United States

China

Europe

Japan

South Korea

ASEAN

India

Rest of World

### Global Collaborative Robot Encoders Market, Segmentation by Type:

Incremental

Absolute

### Global Collaborative Robot Encoders Market, Segmentation by Sensing Principle:

Optical Encoder

Magnetic Encoder

Inductive Encoder

Capacitive Encoder

#### Global Collaborative Robot Encoders Market, Segmentation by Mounting:

In-joint

Motor Feedback

External Redundant

#### Global Collaborative Robot Encoders Market, Segmentation by Functional Safety:

Non-safety

SIL1 / PLc

SIL2 / PLd

SIL3 / PLe

#### Global Collaborative Robot Encoders Market, Segmentation by Application:

Micro-load Cobot: ?3 kg

Light-load Cobot: 3–7 kg

Medium-load Cobot: 7–15 kg

Heavy-load Cobot: ?15 kg

**Companies Profiled:**

Heidenhain

Dynapar

Tamagawa

Baumer

Pepperl+Fuchs

Renishaw

Avago Technologies (Broadcom)

Sensata Technologies

Bourns

Balluff

TE Connectivity

Kubler

TR-Electronic

Hutchinson

Netzer Precision

Rozum Robotics

Lika Electronics

Celera Motion

BEI Sensors

**Key Questions Answered:**

1. How big is the global Collaborative Robot Encoders market?
2. What is the demand of the global Collaborative Robot Encoders market?
3. What is the year over year growth of the global Collaborative Robot Encoders market?
4. What is the production and production value of the global Collaborative Robot Encoders market?
5. Who are the key producers in the global Collaborative Robot Encoders market?
6. What are the growth factors driving the market demand?

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