

# **Photoelectric Sensor Market By Type (Laser Photoelectric Sensor, Fiber Optics Photoelectric Sensor); By Technology (Through-Beam, Reflective, Diffuse); By Application (Automotive, Military & Aerospace, Electronics & Semiconductor, Packaging); and Region – Analysis of Market Size, Share & Trends for 2014 – 2019 and Forecasts to 2030**

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## **Abstracts**

### Product Overview

Photoelectric sensors are sensors used to detect an object's color and distance. These sensors are location sensors that use diodes that emit light as the source of light. The sensor operates on the theory that light is transmitted to an object from the sensor, after which the light is again reflected to the photoelectric sensor. The sensor can measure the distance the target is away from it based on the time it took for the light beam to reach the object and be reflected. In a range of sectors, some of which include the building and automotive industries, photoelectric sensors are increasingly being used. In the industrial field, where they are used to detect location misalignments, photoelectric sensors are increasingly used. The sensors are mounted at fixed positions where it is possible to assess the positioning of a product and see whether it has been placed correctly or not. The information is transmitted based on data from the sensors to the necessary positioning equipment which can make corrections.

### Market Highlights

Photoelectric Sensor Market is expected to project a notable CAGR of 7.12% in 2030. Photoelectric Sensor Market to surpass USD 46.5 billion by 2030 from USD 1.94 billion in 2018 at a CAGR of 6.84% throughout the forecast period, i.e., 2019-30. In the manufacturing, packaging, and material handling industries, these sensors are used to

perform functions such as the identification of transparent bottles, product presence monitoring, wafer detection in the vacuum conveyor system, and conveyor positioning control monitoring. They also improve the quality of processes, minimize process time and increase productivity. The growing adoption of different industrial end-uses is therefore expected to fuel market demand over the forecast period. Increased Industrial Internet of Things (IIoT) penetration has also led to a proliferation of demand. In all aspects of control and automation, industrial and process systems depend on sensors for accurate and precise data. This product is used by the Industrial Internet of Things to calculate positions, pressures, and other important output parameters.

#### Photoelectric Sensor Market: Segments

Fiber Optics Photoelectric Sensor segment to grow with the highest CAGR of 5.45% during 2019-30

Photoelectric Sensor Market has segmented by product type as laser photoelectric sensor and fiber optics photoelectric sensor. The greater market share in 2018 was accounted for by the fiber optics segment held the largest share of the photoelectric sensor market, and this trend is projected to prevail during the forecast period. Besides, the growth of the retro-reflective segment can be due to the increasing use of photoelectric retro-reflective sensors in industrial and pharmaceutical manufacturing and medical applications. These sensors have easy controls for wiring and optical axis change, allowing their operations to be unaffected, regardless of the colour or angle of the objects being targeted. In pharmaceutical and medical applications, retroreflective photoelectric sensors are used to prevent the empty packaging of tablets.

Thru-beam segment to grow with the highest CAGR of 5.2% during 2019-30

Photoelectric Sensor Market is segmented by technology into through-beam, reflective, diffuse. The greater market share in 2018 was accounted for by the retro-reflective segment and is expected to remain dominant over the forecast period. This system allows for decreased costs of maintenance and implementation and is suitable for transparent artefacts to be accurately identified. It can also detect large as well as small objects effectively. At a CAGR above 5.2 percent, the thru-beam segment is expected to increase. This technology offers advantages such as reliable operation and long-distance sensing, which is why the segment is also expected to gain momentum over the next coming years. Over the forecast period, the diffused segment is expected to increase at a moderate pace.

Packaging segment to grow with the highest CAGR of 5.2% during 2019-30

Photoelectric Sensor Market is segmented by application into automotive, military & aerospace, electronics & semiconductor, packaging. The automotive segment

accounted for the increased market share in 2018 as these sensors are used in many automotive applications, such as allowing advanced electronic power steering systems, detecting cars in parking lots, and detecting shiny objects. The reduced costs associated with the manufacture of photoelectric sensors and compulsory emission regulations have also resulted in increased use in the automotive sector. Over the forecast period, the packaging segment is projected to display the highest CAGR. This growth is due to increasing automation in the packaging industry along with increased penetration of these products. Meanwhile, in the coming years, the electronics and semiconductor, military, and aerospace segments are expected to grow at a moderate rate.

## Photoelectric Sensor Market: Market Dynamics

### Drivers

#### Rising Adoption of Industrial Automation

Increasing automation across industries involving advanced technology and automated process control devices has improved manufacturing companies' productivity, fostering high growth in the demand for photoelectric sensors. Via various optical properties, these sensors are used to detect objects, distance, and surface conditions, which has subsequently increased their usage in many industries. For instance, in an automobile assembly plant, the use of these sensors helps detect objects and their alignment. These sensors are also used for various industrial items, such as the positioning of cars in assembly lines, control elevators, garage door opening, and closing, automatic sink faucets, etc. As a result of these applications, the market for photoelectric sensors is increasing rapidly.

#### Increasing Government Initiatives

This is also expected that a gradual increase in military spending in developed and developing countries would fuel demand growth. In the military and aerospace industries, these sensors are used for the identification and tracking of biological agents to safeguard both military and civilian populations. Besides, during the forecast era, the advent of smart photoelectric sensors is expected to accelerate market growth. These intelligent sensors deliver various benefits, such as lower maintenance costs, increased reliability, reduced weight, and reduced downtime. Schneider, Baumer Group, Omron, Pepperl Fusch, Panasonic, and Banner are industry players in the photoelectric sensor business. Market players are investing heavily in R&D activities to advance existing technologies and provide clients with personalised products to stay competitive, increasing the growth of the photoelectric sensor market.

### Restrain

## Competent Alternative Technologies

The cost involved in the installation process is one of the barriers affecting the photoelectric sensor industry. Such sensors typically have high maintenance costs that hinder market development. For example, cars are expected to work in various atmospheric environments, which can vary from difference in altitude, coast to a desert environment, cold and summer climate conditions, and varying humidity, thereby contributing more to the cost of maintaining usability in different conditions.

Maintenance of these sensors serves as another loophole on the market as the lens gets content over time.

## Photoelectric Sensor Market: Key Players

Omron Corporation

Company Overview

Business Strategy

Key Product Offerings

Financial Performance

Key Performance Indicators

Risk Analysis

Recent Development

Regional Presence

SWOT Analysis

Keyence Corporation

Schneider Electric SE

Sick AG

Panasonic Corporation

Rockwell Automation Inc.

Pepperl + Fuchs

Sensopart Industriesensorik

Banner Engineering

HTM Sensors

Fargo Controls

Leuze Electronic

Cntd Electric Technology

## Photoelectric Sensor Market: Regions

Photoelectric Sensor Market is segmented based on regional analysis into five major regions. These include North America, Latin America, Europe, APAC, and MENA.

Photoelectric Sensor Market in Asia Pacific held the largest market share of XX.X% in the year 2018. Market growth in this area can be attributed to the increased demand for

automation solutions from the automotive and transportation industries, industrial manufacturing, food and beverage, and photoelectric sensor packaging applications. Besides, the growing demand for nanotechnology has generated considerable opportunities for the APAC photoelectric sensor market to expand. The market is expected to grow in this area with the growing use of automated systems in sectors such as commercial electronics. Due to the presence of market players, manufacturers, and the high adoption of these sensors for industrial automation, the European photoelectric sensor market is expected to grow at a rapid pace during the forecast period. The incorporation of sensor technology propels the demand with the rise of urbanization.

#### Competitive Landscape:

The Photoelectric Sensor market, which is highly competitive, consists of several major players such as Omron Corporation (Japan), Keyence Corporation (Japan) holds a substantial market share in the Photoelectric Sensor market. Other players analyzed in this report are SICK AG (Germany), Schneider Electric (France), Rockwell Automation Inc. (US), ifm electronic GmbH (Germany), Pepperl+Fuchs (Germany), Balluff Inc. (Germany), Banner Engineering (US), and Panasonic Corporation (Japan) among others.

The market competition has been stepped up by the availability of many players offering photoelectric sensors. October 2019-E3AS Series TOF Photoelectric Sensors with a compact size and 1,500 mm sensing distance have been published by Omron. Using time-of-flight (TOF) detection and an anti-fouling coating, its cutting-edge E3AS photoelectric sensors provide outstanding performance in the toughest environments.

Photoelectric Sensor Market is further segmented by region into:

North America Market Size, Share, Trends, Opportunities, Y-o-Y Growth, CAGR – United States and Canada

Latin America Market Size, Share, Trends, Opportunities, Y-o-Y Growth, CAGR – Mexico, Argentina, Brazil, and Rest of Latin America

Europe Market Size, Share, Trends, Opportunities, Y-o-Y Growth, CAGR – United Kingdom, France, Germany, Italy, Spain, Belgium, Hungary, Luxembourg, Netherlands, Poland, NORDIC, Russia, Turkey, and Rest of Europe

APAC Market Size, Share, Trends, Opportunities, Y-o-Y Growth, CAGR – India, China, South Korea, Japan, Malaysia, Indonesia, New Zealand, Australia, and Rest of APAC

MENA Market Size, Share, Trends, Opportunities, Y-o-Y Growth, CAGR – North Africa, Israel, GCC, South Africa, and Rest of MENA

Photoelectric Sensor Market report also contains analysis on:

## Photoelectric Sensor Market Segments:

### By Type:

Laser Photoelectric Sensor

Fiber Optics Photoelectric Sensor

### By Technology:

Diffused

Retro-reflective

Thru-beam

### By Application:

Automotive

Military & Aerospace

Electronics & Semiconductor

Packaging

Others

Photoelectric Sensor Market Dynamics

Photoelectric Sensor Market Size

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Current Trends/Issues/Challenges

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**7. PEPPERL + FUCHS**

**8. SENSOPART INDUSTRIESENSORIK**

**9. BANNER ENGINEERING**

**10. HTM SENSORS**

**11. FARGO CONTROLS**

**12. LEUZE ELECTRONIC**

**13. CNTD ELECTRIC TECHNOLOGY**

Consultant Recommendation

\*\*The above-given segmentations and companies could be subjected to further modification based on in-depth feasibility studies conducted for the final deliverable.

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