Inductive Proximity Sensor Market - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)

Market Report | 2023-01-23 | 120 pages | Mordor Intelligence

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Report description:

The inductive proximity sensor market is expected to register a CAGR of 6.6% over the next five years. Inductive proximity sensors are non-contact devices that set up a radio frequency field with a coil and an oscillator. The presence of an object can alter this field, and the sensor can detect this alteration. The inductive proximity sensors can detect an object without touching it and therefore do not cause damage or abrasion to the object.

Key Highlights
Proximity sensors are generally used in many automation applications. They are used to sense objects and do not require physical contact with the target or object being sensed. Thus, they are referred to as non-contact sensors. The common proximity sensor types include photoelectric, capacitive, and inductive sensors.
Inductive proximity sensors are utilized for the non-contact detection of metallic objects. The operating principle of these sensors is based on the coil and oscillator, which creates an electromagnetic field in the near surroundings of the sensing surface.
Proximity sensors are also found in consumer devices. In smartphones, proximity sensors detect if a user is holding the mobile near their face.
With ASIC technology, SICK sensors provide enhanced precision and reliability. The company can offer the right solution to meet the customer's requirements every time, from cuboid standard sensors or cylindrical, with single, double, or triple operating distances, to special sensors for use in explosive and toxic atmospheres or harsh environments. The company's inductive proximity sensors are the intelligent, reliable route to implementing industry-specific and customized to any task involving automation.
In the case of conventional inductive proximity sensors, if the distance to the damping element increases, the sensor becomes more sensitive to the detection object, and the metal surrounding the installation affects the switching distance. ?
To tackle this issue, Pepperl+Fuchs has introduced active shielding technology, which enables high switching distances regardless

of the installation conditions. The company has integrated it into the VariKont series for the first time. They are available in versions with high switching distances of 30 mm for flush mounting and 50 mm for non-flush mounting.
The inductive proximity sensors are used in several industrial and manufacturing applications for safety and inventory management applications. An automated production line, for example, is used for positioning, object detection, counting, and inspection. The proximity sensors are also used for part detection in several industrial conveyor systems.
The need to withstand harsh cleaning agents, severe temperatures, and high-pressure wash-down environments is compelling the food and beverage industry to adopt proximity sensors. In the food and beverage sector, applications like food production and harsh chemicals are used during cleaning, where a standard sensor will corrode and fail prematurely. The inductive proximity sensor exhibits a robust design with superior resistance to high temperature and high-pressure cleaning processes.?

Inductive Proximity Sensor Market Trends

Industrial Segment to Hold Significant Market Share

Industrial applications are becoming dependent on tracking, monitoring, measuring, and communication. Modern industries depend heavily on the information and data that various sensory devices supply to the control system, ideally in fractions of a second, to be an effective smart manufacturing environment. All industrial applications require robustness, high IP protection classes, advanced EMC and voltage immunity, and wide-range temperature stability parallel to cost-efficient sensor implementation.
Inductive proximity sensors are majorly used where a more traditional switch might prove problematic or impossible to use, like in an application where lots of water and dirt might be present. Typical examples would be an advanced CNC machine or a conveyor line in a food and beverage environment and multiple uses in the industrial landscape.
Although large industries practiced the use of inductive proximity sensor technology over a few years, improved technology has led to its widespread adoption by all-tier companies to streamline operations, enhance industrial automation, and change the manufacturing landscape of several companies. Another growth factor is the increase in the number of vendors that enable industrial automation and growth in the Industrial Internet of Things (IIoT) demand.
Many WFI sensors on the market also provide multi-metal detection at the same sensing range. These sensors are commonly referred to as Factor 1 or F1 models since they have no sensing range reduction factor for non-ferrous materials like aluminum. Moreover, their sensing range reduction factor would be equal to 1.0 (no reduction in sensing distance).

Asia-Pacific to Witness Significant Growth

Asia-Pacific is anticipated to witness a considerable growth rate compared to other regions because of developing countries like China and India. Additionally, prominent vendors, such as Omron Corporation, Panasonic Corporation, and Autonics Corporation, are headquartered in the region.
Manufacturers in the automotive industry strive to meet the demand for electric vehicles (EVs) and low fuel consumption by building lighter-weight vehicles and favoring aluminum over iron. As the prevalence of mixed production lines containing both aluminum and iron increases, the need for the same sensing distance proximity sensors with suitably long sensing ranges is also rising.
The Production Linked Incentive (PLI) Scheme for the automobile and auto component industry proposes financial incentives for boosting domestic manufacturing of advanced automotive technology (AAT) products and gaining investments in the automotive manufacturing value chain. The prime objectives of the schemes include overcoming cost disabilities, creating economies of scale, and building a robust supply chain in areas of AAT products.

Asia-Pacific is the only region to witness capacity growth in the oil and gas industry in recent years. Moreover, growing investment in the oil and gas industry would create opportunities. For instance, according to IBEF, the investment in oil and gas exploration and production activities in India is anticipated to reach USD 25 million by 2022. Additionally, the growing government policies and initiatives toward the fulfillment of energy demands and initiation of new projects will contribute positively to the market.?

Inductive Proximity Sensor Market Competitor Analysis

The inductive proximity sensors market is very competitive in nature. The market is concentrated due to the presence of various small and large players. Some of the significant players in the market are Panasonic Corporation, Sick AG Pepperl+Fuchs, Rockwell Automation Inc., Eaton Corporation PLC, Omron Corporation, Delta Electronics Inc., and many more.

August 2022: Inductive proximity sensors are often used in vehicles, i.e., in mobile equipment, for tasks such as position monitoring or end position monitoring of swivel arms, gripping arms, and dump bodies. Rockwell Automation Inc. partnered with Bravo Motor Company, focusing on producing batteries, vehicles, and energy-storage systems. With the new alliance, Rockwell Automation will contribute to providing cutting-edge solutions for manufacturing batteries and electric vehicles in the Brazilian market based on the circular economy concept.

Additional Benefits:

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

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