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

Market Report | 2025-04-28 | 172 pages | Mordor Intelligence

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Report description:

The Optocouplers Market size is estimated at USD 3.01 billion in 2025, and is expected to reach USD 4.63 billion by 2030, at a CAGR of 8.99% during the forecast period (2025-2030).

The growing industrial automation and increasing adoption of signal isolation solutions across many end-user industries are major factors driving the market studied over the forecast period. Rapid advancements in optical wireless systems, the increasing demand for electric and hybrid vehicles, and the emergence of the digital optocoupler are likely to create more opportunities for optocoupler manufacturers.

Key Highlights
- The optocoupler market is expanding at a rapid rate due to large part to rising demand from the automotive, telecommunication, and industrial sectors. The optocoupler market is expanding due to the growing applications of optocouplers in the communication industry.
- The optocoupler typically transmits digital signals, though it can also transmit analog signals in a few specific circumstances. Consumer electronics, smart home appliances, and computer auxiliary devices are to blame for the rise in demand for optocouplers.
- The optocouplers market is growing due to trends in industries like wireless equipment, rising demand for electric vehicles, and automation. To enhance the performance of the products based on optocouplers, businesses have been investing in them.
- The market is expected to grow due to several key factors, including expanding industrial automation and the rising popularity of signal isolation solutions. There will probably be more opportunities for optocoupler manufacturers due to the quick development of optical wireless systems, the increasing demand for electric and hybrid vehicles, and the emergence of the digital optocoupler.
- Optocouplers struggle with reliability. The failure of the LED may be the main issue, but it mentions other issues like interface

contamination and thermo-mechanical stress brought on by moisture absorption. These factors lead to early intrinsic wear-out of optocouplers..

Optocouplers Market Trends

Increasing Industrial Automation to Drive the Market

- The industrial sector has traditionally been among the leading adopters of advanced technologies. As the industry is going through another technological shift, the adoption of advanced technologies such as AI, IoT, ML, automation, and robotics has grown significantly. The "Industry 4.0" concept is driving the digital transformation of the field, enabling industries to deliver real-time decision-making, enhanced productivity, flexibility and agility.
- As many electrical and electronic devices and circuits need to be installed to support this infrastructure, this shift in trend is creating a favorable market outlook for the growth of the studied market. Optocouplers are designed to protect sensitive control circuitry from voltage fluctuations and unwanted noise or electromagnetic interference. Additionally, optocouplers also enable isolation in industrial applications ranging from the motor control circuit of servo automation systems and industrial robots, power supply, and photovoltaic (PV) inverters to data communication and digital logic interface circuits, the growing adoption of automation solutions is expected to drive their demand during the forecast period.
- Furthermore, in industrial automation applications, the optocoupler is responsible for transmitting data across the isolation barrier while filtering out unwanted noise. Failure of the component to reject unwanted noise can lead to data-transmission errors. The factors involved in defining CMR are the common-mode voltage (VCM) and the rise and fall times of the transient signal (dv/dt). The failure point is determined by increasing either VCM or the dv/dt until the optocoupler's output signal crosses into the opposite logic state.
- Industrial automation communication is witnessing increased demand for optocouplers in developing nations such as India, China, and others. Additionally, the increased adoption of automation in the manufacturing sector is also driving the market as optocouplers forms an integral part of the automation process.
- The region with the most installations was Asia and Australia; an estimated 266,000 units had already been installed by 2020. In Asia and Australia, it is expected that there will be 370,000 Industrial Robots installed by 2024.
- As an industrial robot consists of a robot arm, a Human Machine Interface (HMI) panel, and a control cabinet, different robot components and interfaces must be isolated to ensure the safe operation of the complete robot systems. As optocouplers are among the effective solutions to impart isolation among electrical isolation between two circuits and help the robotic systems facilitate effective communication among various functional units, the increasing adoption of robotics and other automation solutions is expected to drive their demand during the forecast period.

Asia Pacific is Expected to be the Fastest Growing Market

- Optocouplers have most commonly been utilized to provide safety isolation for compliance with domestic and international regulatory requirements. Significant investments in the semiconductor industry, coupled with the increasing demand for efficient optoelectronic components in the industrial sector, bolstered the growth of optocouplers in the Asia-Pacific region.
- East Asia significantly contributes to innovative energy-efficient products and the automotive sector. However, optocouplers also offer another often-overlooked benefit: isolation from electrical noise. China is one of the major influencing factors in the region, owing to its strong foothold in the semiconductor market. The region is also one of the significant contributors to the global automotive sector and the smart energy-efficient products market.
- The Government of India has the right initiatives to boost the country's economy through deluging interest in manufacturing. In

terms of export and production, the electronic industry in India is making remarkable growth. The increasing demand for efficient optoelectronic components in the industrial sector, coupled with substantial investments in the semiconductor industry, is estimated to bolster the sales of optocouplers in the region. Moreover, government initiatives encouraging the growth of the local semiconductor market are projected to attract new players.
- In India, To create electronic manufacturing clusters, the government has announced 19 EMCs (electronic manufacturing clusters), three of which have been allotted to the Andhra Pradesh government.
- According to the National Bureau of Statistics of China, The industrial sector accounted for around 31.7 % of China's gross domestic product by 2023. Industry 4.0, also known as the Fourth Industrial revolution, is the manufacturing automation and upgrading industry practices, thus driving the demand for optocouplers in the industrial sector.
- Optocouplers can either be used as a switching device or with other electronic devices to isolate low and high-voltage circuits. In electronics, embedded systems often rely on optocouplers to receive input signals from external sensors or switches. The Indian government has recently announced an INR 7,325 crore (USD 888.2 million) PLI Scheme (Production Linked Incentive) for domestic manufacturers of laptops, tablets, personal computers, and servers for four years. This PLI scheme may get INR 3.26 lakh crore (USD 39.5 billion) in production and INR 2.45 lakh crore (USD 29.7 million) in exports over the next four years.

Optocouplers Industry Overview

The Optocouplers Market is Semi-Consolidated with the presence of major players like Shenzhen Kento Electronic Co. Ltd, Everlight Electronics Co. Ltd, Senba Sensing Technology Co. Ltd, ON Semiconductor Corporation, and Broadcom Inc. Players in the market are adopting strategies such as partnerships, innovations, and acquisitions to enhance their product offerings and gain sustainable competitive advantage.

In November 2022 - Vishay IntertechnologyInc. (VSH) is making significant efforts to diversify its discrete product line to strengthen its position in the burgeoning optocouplers market. The company introduced the linear optocoupler VOA300. The automotive-grade VOA300 device has a 5300 Vrmsisolation voltage, among the highest in the industry.

In August 2022 - Toshiba Electronic Devices & Storage Corporation expanded its smart gate driver photocouplers lineup. "TLP5222," a 2.5A output smart gate driver photocoupler, has a built-in automatic recovery function from protective operations. The lineup also includes TLP5212, TLP5214, and TLP5214A, which do not have a built-in automatic recovery function but reset to their normal operation by a signal input to their LED.

Additional Benefits:

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

Table of Contents:

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