

Optocoupler Market - Forecasts from 2021 to 2026

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Abstracts

The optocoupler market is expected to grow at a compound annual growth rate of 8.91% over the forecast period to reach a market size of US\$4.016 billion in 2026 from US\$2.406 billion in 2020. Optocoupler refers to an electronic instrument that acts as the mediator for electrical signals between separated circuit through the medium of light. The technology of such advanced semiconductors is used in wireless devices. The optocouplers are better than the conventional circuits as it controls the excessive voltage and transfers the power required by the device. This avoids wear and tear due to excess power transmission. A common unit of the optocoupler consists of LED light and phototransistor. The other types of optocoupler consist of LED-photodiode, LED-LASCR, and lamp-photoresistor. Generally, the optocoupler is used for the transmission of digital signals but in limited scenarios, it is used with analogue signals as well. The increase in demand for the optocoupler can be attributed to consumer electronics, smart appliances and computer auxiliary devices. The trends in the domains such as wireless equipment, increasing demand for electric vehicles and automation leads to an increase in the market of optocouplers. The companies have been making investments in optocoupler to improve the functionality of the products based on it. For instance, in January 2020, Toshiba Electronics Europe has rolled out its innovative fast-speed 10Mbps logic output photocoupler for 24V digital input programmable logic controller. Toshiba has reduced the component for making the optocoupler as it primarily requires a bridge diode. Similarly, Vishay Intertechnology has added optocouplers with phototriac output in space-saving compact DIP-4 and SMD-4 packages. The Photocouplers features high off-state voltage of 800 V and dV/dt of 1000 V/?s, The firm aims to deliver features such as robustness and noise cancellation which adds to the experience of using electronics. Such optocouplers are primarily meant for air conditioning machines, lamp, motor, controlling house valves.

The market for optocoupler is classified based on type as in Transistor, Darlington Transistor, TRIAC, SCR and By applications as in Consumer Electronics, Automobiles,

Industrial, Aviation, Healthcare and Medical, Others. Under the COVID-19 pandemic, in the initial lockdown phase, the market for electronics, smart device and other electronics been in decline which reduces the requirement for an optocoupler. However, as the economic activities resumed the demand for optocoupler been in trend as majorly all the electronic devices require it to support wireless accessories. The demand for the optocoupler is expected to pick the momentum as the demand for smartphones, electric vehicles, and other optocoupler supporting devices increases. The companies are developing advanced optocouplers with the expected revival in the demand to follow. For instance, in March 2020, Vishay Intertechnology has introduced automotive grade phototransistor optocoupler combining high current transfer ratio range by 12 times with a low forward current of 1 mA in the compact SOP-4 mini-flat package.

Advancements in wireless communication technology and the emergence of 5G

The growth of the Optocoupler market is dependent on the wireless technology prevalent in the current electronics market. The consumers are moving from complex designed machinery to more simplistic and minimalistic designed devices which is easy to install and operate. The communication space is expected to have competition between 5G technology and advancement in wifi technology in both retail and commercial-industrial segment. Mobile phone providers are expected to focus on 5G technology handsets as it offers more benefits compared to wifi while commuting or travelling. For instance, in December 2020, Fastweb rolled out its 5G Fixed Wireless Access (FWA) Customer Premise Equipment (CPE) devices which use Snapdragon X55 Modem-RF System – with the collaboration with Qualcomm Technologies, Inc. By leveraging the technology has resulted in enhanced capacity and cost-effectiveness of 5G mmWave, Fastweb is expected to provide broadband connections to 12 million homes in Italy which approximately amounts to 45% of Italian population with processing speed of up to 1 GHz. Though, the commercialisation of the services is expected to commence from 2024 onwards. Residential segment is expected to be connected with 5G CPE device installed on roof or side-house that wirelessly connect to tower. Such advancements call for efficient Optocouplers. Apart from the conventional innovations, there are futuristic developments such as, in the eyewear industry, in September 2020, ST Microelectronics has unveiled LaSAR Alliance which is Laser Scanning for Augmented Reality, aimed to develop and accelerate Augmented Reality smart-glass solutions. The demand is further strengthened by the increase in the trend of Automated Machinery, with the emergence of the unexpected COVID-19 pandemic manufacturing companies is facing workforce crunch due to which there is a greater dependence over automation across production lines. The companies are calibrating

machinery to online and integrated cloud-supported Enterprise Resource Planning dashboards. Such set up creates user-friendly automation driven production lines. With these developments, honing the existing workforce in operating ERP system synchronize with the overall manufacturing production lines. These developments would not have been possible if not supported with Optocoupler semiconductors.

Regional Analysis

The United States dominates the optocoupler market in terms of innovation and technology. The increase in growth can be linked to increasing usage of optocoupler semiconductor across the industry verticals such as aerospace, IoT technology and others. Apart from these, the increase in automated automobiles and original equipment manufacturers is expected to result in the growth of optocouplers. The emerging economies such as India, China, Japan, South Korea, and Taiwan are the can be considered as major manufacturers driving the supply side of the Optocoupler. For instance, As per the data by Taiwan Semiconductor Association, The production value of Taiwan's integrated circuit industry for 2020 is expected to grow over 20 per cent from 2019. The increase in demand is attributed to the requirement for computers, monitors, TVs, and other electronic communication devices for performing working-from-home tasks and e-learning. The demand is further boosted by the rising popularity of 5G technologies and other gaming and entertainment equipment. The growth is attributed to the electronic industry with a large production of Optocoupler at competitive prices across the Asia-Pacific region. The developed nations act as the major importer of Optocoupler as it offers favourable prices for the quality machines. The big automobile and electronic giants conglomerate outsource and procure the Optocoupler by making a direct investment in the production facility in the Asia-Pacific region.

Segmentation

By Type

Transistor

Darlington Transistor

TRIAC

SCR

By Applications

Consumer Electronics

Automobiles

Aviation

Healthcare and Medical

Others

By Geography

North America

USA

Canada

Mexico

South America

Brazil

Others

Europe

Germany

Spain

United Kingdom

Others

Middle East and Africa

Saudi Arabia

Others

Asia Pacific

China

Japan

India

Others

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