

North America Current Sense Amplifier Market Forecast to 2030 – COVID-19 Impact and Regional Analysis – by Sensing Type (High-side Sensing and Low-side Sensing), Current Direction (Unidirectional and Bidirectional), and End User (Electronics, Automotive, Telecommunications, Industrial, and Others)

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Abstracts

The North America current sense amplifier market is expected to grow from US\$ 1,013.97 million in 2023 to US\$ 1,694.06 million by 2030. It is estimated to grow at a CAGR of 7.6% from 2023 to 2030.

Rising Demand for Current Sensing Amplifiers for Renewable Energy Drive North America Current Sense Amplifier Market

The continuous rise in the demand for energy is putting designers of power electronics applications under constant pressure to improve efficiency. The advent of the smart grid, grid-tied photovoltaic (PV), and other grid-tied renewable energy systems requires the development of high-efficiency power inverters. Here, current sense amplifiers are used to measure, monitor, and manage the power flow.

In solar-powered plants, solar-power modules are integrated with variable power sources for a standardized electrical network. Here, the solar inverter helps rectify the direct current (DC) voltage from the solar panel to the alternating current (AC) for grid functioning. It also helps monitor the nonlinear response of photovoltaic diodes to ensure maximum power production. This raises the need for current measurement and reliable current flow monitoring, which can be solved by integrating current sense

amplifiers. In addition, the demand for current sense amplifiers is increasing for energy harvesting purposes as they help to operate with input levels that exceed their supply voltage.

Furthermore, it is also seen that various renewable energy projects are carried out worldwide due to the rising demand for energy. A few large solar projects are:

- **Sawtooth Energy Center Project:** The project will be constructed in Nevada and will consist of a solar energy generating facility having a 1,000 MW capacity and about 1,000 MW energy storage facility. The construction will start in October 2023 and will be operational by December 2023.
- **Smoky Valley Solar Project:** It will be constructed in Nevada with an investment of US\$ 1 billion. A 1,000 AC MW solar generation facility will be linked to the battery energy storage system. Its construction will commence in the third quarter of 2023, and it will be operational by the end of 2025.
- **Ditat Deus Solar Project:** It will be a 650 MW AC solar power generating facility with 350 MW of battery storage. The project will be constructed on 5,946 acres of land in Arizona. The construction will start in June 2023, and the plant is expected to operate commercially by December 2025.

Hence, the growing number of renewable energy projects will raise the demand for current sense amplifiers to manage the power flow, which would create an opportunity for the North America current sense amplifier market during the forecast period.

North America Current Sense Amplifier Market Overview

The North America current sense amplifier market in North America is segmented into the US, Canada, and Mexico. The market growth in this region is attributed to the increasing demand for current sense amplifiers in automotive and consumer electronics applications. In automobiles and consumer electronics, current sense amplifiers are used to measure and manage the current flow. In consumer electronics, an amplifier is used in battery charging circuits to manage power. Also, in automobiles, an amplifier is used in electric batteries, motors, controllers, and other components. The automobile industry in North America is witnessing tremendous growth due to the growing customer preference for electric vehicles and autonomous vehicles as their usage decrease emissions caused by fueled vehicles. In addition, several government authorities have taken various initiatives to promote the adoption of electric vehicles in the region.

Several US states have implemented financial incentives, which include tax credits, rebates, and registration fee reductions to promote electric vehicle adoption. For instance, the Colorado government offered a US\$ 4,000 tax credit through 2021 on the purchase of a light-duty electric vehicle. Similarly, the Connecticut government allows for a reduced biennial vehicle registration fee of US\$ 38 for electric vehicles. Hence, the demand for electric vehicles is increasing, further boosting the growth of the North America current sense amplifier market in the region. Moreover, due to the adoption of work-from-home and learn-from-home policies, the demand for smartphones, laptops, tablets, and other consumer electronics increased in North American countries. According to the Groupe Speciale Mobile Association (GSMA), smartphone adoption in 2022 was 84% and is expected to increase by 90% by 2030.

North America Current sense amplifier market Revenue and Forecast to 2030 (US\$ Million)

North America Current sense amplifier market Segmentation

The North America current sense amplifier market is segmented into current direction, end user, and country.

Based on sensing type, the North America current sense amplifier market is bifurcated into high-side sensing and low-side sensing. In 2023, the high-side sensing segment registered a larger share in the North America current sense amplifier market.

Based on current direction, the North America current sense amplifier market is bifurcated into unidirectional and bidirectional. In 2023, the bidirectional segment registered a larger share in the North America current sense amplifier market.

Based on end-use, the North America current sense amplifier market is segmented into electronics, automotive, telecommunications, industrial, and others. In 2023, the electronics segment registered a largest share in the North America current sense amplifier market.

Based on country, the North America current sense amplifier market is segmented into the US, Canada, Mexico. In 2023, the US segment registered a largest share in the North America current sense amplifier market.

Analog Devices Inc; Microchip Technology Inc; Monolithic Power Systems Inc; On Semiconductor Corp; Renesas Electronics Corp; ROHM Co Ltd; Semtech Corp;

STMicroelectronics NV; and Texas Instruments Inc are the leading companies operating in the North America current sense amplifier market.

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