

India Power Inverter Market Size and Share Outlook - Forecast Trends and Growth Analysis Report (2025-2034)

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Report description:

The India power inverter market size reached around USD 5.52 Billion in 2024. The market is projected to grow at a CAGR of 15.00% between 2025 and 2034 to reach nearly USD 22.33 Billion by 2034.

India Power Inverter Market Growth

A power inverter is an electronic device that transforms direct current (DC) into alternative current (AC). It is used to ensure seamless electricity supply to electrical gadgets by using batteries and energy from sources like wind turbines and solar PVs. Power inverters are typically energy-efficient, durable, and ideal for handling high power requirements, due to which they find extensive use in the residential, commercial, and utility sectors.

The growing penetration of smart power inverters that efficiently deliver energy while regulating voltage, withstanding abnormal frequency and voltage, responding to frequency, and changing operations in response to instructions is expected to fuel the growth of India power inverter market. As distributed and renewable energy sources require advanced power electronics that can offer anti-islanding functionalities, the deployment of smart inverters is likely to surge in the forecast period.

With the increasing launches of innovative smart power inverters offering advanced functions such as voltage and frequency regulation, enhanced situational awareness, adaptive protection, advanced system recovery and restoration, and DER reconnect/disconnect, among others, the India power inverter market is poised to witness rapid growth in the forecast period.

Key Trends and Developments

Growing shift towards solar inverters; government initiatives and regulatory backing; technological advancements; and rising demand for high-capacity inverters are positively impacting the growth of India power inverter industry.

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January 2024

Hopewind launched its pioneering HSHV 385K string inverter in India, enhancing utility-scale solar solutions. India aims to add 15.5GW solar capacity in FY23-24, targeting 50% renewable energy by 2030.

October 2023

At REI 2023, Sungrow introduced new solar-plus-storage solutions, featuring the "1+X" modular inverter, the 320kW SG320HX-20 string inverter, and the next-gen PowerTitan 2.0 energy storage system.

October 2023

Fuji Electric India showcased the Central solar inverter PV 1500 series at the Renewable Energy India Expo, expanding its portfolio in the solar energy sector.

September 2023

WattPower inaugurated a 10 GW string inverter factory in Chennai, Tamil Nadu, spanning 3.5 acres with 40% green space, dedicated to producing string PV inverters.

Shift towards solar inverters

There has been a notable shift towards solar inverters in the Indian market that can boost the power inverter demand due to a growing emphasis on sustainable and renewable energy sources.

Government initiatives and regulatory support

Government initiatives promoting solar energy use are boosting the solar inverter segment, with increased installations in both urban and rural areas enhancing market expansion.

Technological advancements and smart features

Technological advancements, including the development of smart inverters with IoT integration, are gaining traction, offering remote monitoring and management features for energy efficiency and reliability.

Increased demand for high-capacity inverters

The rising consumption of electronic devices and appliances in Indian households and businesses has led to an increased demand for high-capacity inverters, fuelling demand of India power inverter market.

India Power Inverter Market Trends

The Indian government launched several initiatives aimed at bolstering the market expansion, focusing on enhancing energy security, promoting renewable energy sources, and ensuring uninterrupted power supply across the country. For instance, a rural electrification programme, Deen Dayal Upadhyaya Gram Jyoti Yojana (DDUGJY), seeks to ensure continuous power supply to rural India, facilitating the installation of inverters in areas with unstable power supply.

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With the rising exploration of solar energy as a renewable power source and the expansion of solar plants in India, the inverter market size in India for large-scale solar plants is significantly growing. The introduction of various favourable government initiatives to boost the adoption of solar PVs in the residential, commercial, and industrial sectors is also aiding the India power inverter market expansion.

The growth of the market in India can further be attributed to the rising demand for high-capacity PV modules, the ease of installation offered by innovative power inverters, and the increasing emphasis on reducing the levelised cost of electricity (LCOE).

Industry Outlook

Rising Adoption of Clean Technologies Aids the Demand for Power Inverters

India has experienced exponential growth in its solar installed capacity from 2018 to June 2023 as illustrated by the data from the National Solar Energy Federation of India (NSEFI). As per the India power inverter industry analysis, the capacity increased from 25,212 MW in 2018 to 70,100 MW by June 2023. This significant rise underscores India's commitment to expanding its renewable energy sector. Between 2018 and 2023, the installed capacity surged dramatically each year. The market expanded from 37,459 MW in 2020 to 49,347 MW in 2021 and 63,950 MW in 2022. By June 2023, the capacity had reached an impressive 70,100 MW. This growth is driven by supportive government policies, increased investments, technological advancements, and a growing emphasis on sustainable energy. As solar capacity increases, the demand for power inverters, which are essential for converting solar energy into usable electricity, is also rising, which contributes to the India power inverter industry revenue. Inverters are crucial for integrating solar power into the grid and for standalone solar applications.

In Q3 2023, Maruti Suzuki led with a 42% share in the automotive market, followed by Hyundai at 14%, Tata Motors at 13%, and Mahindra at 10%. During the period, 1.1 million light vehicles were sold in India, with electric vehicles (EVs) accounting for 2.3% of the total sales. Tata Motors led the EV segment with a commanding 70% share, indicating its strong focus and investment in electric vehicle technology. MG Motors held a 17% share, and Mahindra accounted for 4%, while other brands shared the remaining 8%. As the adoption of EVs increases, the demand for efficient and reliable inverters also rises. Power inverters are critical components in EVs, converting DC power from batteries to AC power for electric motors.

Wide Applications of Power Inverters and Advancement in Technology

- Power inverters are crucial in various sectors, including residential, commercial, industrial, and automotive, ensuring a broad customer base.
- Modern power inverters are highly efficient, converting DC to AC with minimal energy loss, making them attractive for energy-conscious consumers.
- Continuous innovations in inverter technology, such as improvements in battery management and smart inverter capabilities, enhance performance and reliability and aid the growth of the India power inverter industry.
- Subsidies and incentives for renewable energy adoption and energy efficiency improvements boost market growth for power inverters.

High Cost of Power Inverters, Economic Downturns, and Complexity in Installing Power Inverters Can Restrain the Market Growth.

- The upfront cost of purchasing and installing power inverters can be high, deterring some potential customers.
- Professional installation and maintenance are often required, adding to the overall cost and complexity.
- The market is highly competitive, with numerous global and local players, leading to price wars and reduced profit margins, which affects power inverter demand forecast.

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- Rapid advancements in technology can render existing products obsolete.
- Fluctuations in the global economy can impact investment in renewable energy projects and, consequently, the demand for inverters.
- The cost of raw materials used in manufacturing inverters can be volatile, affecting production costs and pricing strategies.

Rising Adoption of Renewable Technologies Provides Opportunities to the Market

- The expansion of solar and wind power installations presents significant opportunities for inverter manufacturers.
- Power inverters can play a critical role in providing reliable electricity to remote and rural areas.
- The move towards smart grids requires advanced inverters that can provide grid stability and energy storage solutions, opening up new market segments.
- The rising adoption of EVs increases demand for inverters in automotive applications, both for onboard power management and charging infrastructure, fuelling the India power inverter market revenue.
- Increasing interest in energy storage systems, both residential and commercial, boosts demand for inverters that can manage and distribute stored energy effectively.

Competitive Factors in the India Power Inverter Market

- Continuous innovation in inverter technology, such as integration with smart home systems, and support for renewable energy sources, is critical.
- Competitive pricing strategies are essential to attract cost-sensitive consumers and boost power inverter market share in India.
- Established brands with a reputation for quality and reliability are more likely to gain consumer trust.
- Providing excellent after-sales service, including installation, maintenance, and customer support, can enhance customer satisfaction and loyalty.
- A wide and efficient distribution network ensures that products are readily available to consumers across different regions.
- Inverters with higher energy efficiency ratings are more attractive to consumers looking to reduce energy consumption and costs.

India Power Inverter Industry Segmentation

□India Power Inverter Market Report and Forecast 2025-2034□ offers a detailed analysis of the market based on the following segments:

Breakup by Rating

- <5KW
- 5kW to 100kW
- 100kW to 500kW
- Above 500kW

Breakup by Application

- Motor Drives
- UPS
- Rail Traction
- Wind Turbines
- EVs/HEVs

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- Solar PVs
- Others

Breakup by End Use

- Utilities
- Residential
- Commercial and Industrial
- Automotive and Transportation
- Others

India Power Inverter Market Analysis by Share

Increasing investment in sustainable energy technologies is expected to propel the India power inverter market expansion

Governments and various international companies are increasingly investing in renewable energy solutions, including offshore wind energy generation. The Indian government has implemented several policies and incentives to encourage the growth of the wind energy sector.

Wind turbines dominate the power inverter market share in India. In wind turbine applications, power inverters are essential for converting the variable DC output generated from the wind turbine's generator into a stable AC power supply that can be fed into the electrical grid or used directly.

Meanwhile, UPS (Uninterruptible Power Supplies) and rail traction are expected to hold significant importance in the India power inverter market as such inverters are essential for the conversion of DC power into AC power.

The residential sector is rapidly adopting power inverters for seamless energy supply

The growing usage of power inverters in the residential sector is augmenting the India power inverter market development. With rapid urbanisation and growing disposable incomes, coupled with the rising ownership of consumer electronics such as televisions, smartphones, and refrigerators, among others, the utilisation of power inverters to ensure seamless electricity supply is growing. The growing prevalence of power cuts, especially in rural and semi-urban regions, is boosting the demand for cost-effective power inverters. Moreover, the India power inverter market is being fuelled by the surging launches of compact, efficient, safe, low-maintenance inverters with high-rated performance and minimal carbon footprint.

On the other hand, the automotive and transportation sector is expected to rapidly adopt power inverters owing to the surge in demand for electric vehicles. Power inverters are a key component in EVs, converting DC power from the battery to AC power for the electric motor. Moreover, the development of EV charging stations across India is expected to further propel the India power inverter market expansion in the coming years.

Competitive Landscape

Some of the major players are increasingly investing in renewable energy generation, boosting the market.

Other key players in the India power inverter market are Genus Power Infrastructures Ltd, and SolarEdge Technologies Inc., among others.

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Various leading companies are expanding their manufacturing capabilities in response to the "Make in India" scheme, which is expected to boost the accessibility and cost-effectiveness of innovative power inverters in the country in the coming years as well as enhance India power inverter market opportunities. In addition, companies are focusing on the development of advanced power inverter technologies, such as smart inverters that can efficiently manage power flow, improve energy savings, and offer remote monitoring capabilities. Innovations also include the integration of IoT (Internet of Things) technologies for better device management and connectivity.

India Power Inverter Market Regional Analysis

There is a high demand for power inverters due to frequent power cuts, especially during the summer in the Northern region. The industrial hubs in cities like Delhi, Punjab, and Uttar Pradesh also contribute significantly. The market includes top brands like Luminous, Su-Kam, and Microtek. These companies dominate due to their established distribution networks and service centers in this region.

As per the India power inverter market dynamics and trends, Maharashtra and Gujarat in Western region also have a high demand for inverters due to urbanisation and a rapidly growing commercial sector. Additionally, several industries and IT parks in these areas rely on inverters for uninterrupted power supply.

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