+357 96 030922
info@marketpublishers.com

Solar Inverter Market Forecasts to 2032 – Global Analysis By Product Type (String Inverters, Central Inverters, Microinverters, and Hybrid Inverters), Phase (Single-Phase Inverters, and Three-Phase Inverters), Connectivity (On-Grid/Grid-Tied, and Off-Grid), Application, End User, and By Geography

https://marketpublishers.com/r/SFDB6F25CA83EN.html
Date: December 2025
Pages: 200
Price: US$ 4,150.00 (Single User License)
ID: SFDB6F25CA83EN

Abstracts

According to Stratistics MRC, the Global Solar Inverter Market is accounted for $13.0 billion in 2025 and is expected to reach $23.5 billion by 2032, growing at a CAGR of 8.8% during the forecast period. The solar inverter is a device that converts direct current (DC) from solar panels into alternating current (AC), which is usable by homes, businesses, and the grid. It includes various types such as string inverters, central inverters, microinverters, and hybrid inverters with storage integration. The advantages of solar inverters include better system efficiency, a safe and steady link to the grid, better monitoring and issue detection, more energy production, and support for smart solar and storage options in homes, businesses, and large projects.

According to IRENA’s renewable-cost reviews, utility-scale solar PV electricity costs fell to around USD 0.044/kWh in 2023 the rapid scale of PV deployment underpins demand for inverters.

Market Dynamics:

Driver:

Falling costs of solar PV systems and supportive government policies

+357 96 030922
info@marketpublishers.com

Falling costs of solar PV systems and supportive government policies are a central driver for the solar inverter market, as cheaper modules and balance-of-system components improve project economics across residential, commercial, and utility segments. Governments are backing these trends through feed-in tariffs, tax credits, net-metering schemes, and auction programs that lock in predictable revenues for developers. Moreover, higher climate and energy-security ambitions are translating into aggressive solar capacity targets, sustaining demand for efficient, reliable inverters across new builds, repowering projects, and distributed rooftop installations worldwide.

Restraint:

Grid stability and integration challenges with high renewable penetration

Grid stability and integration challenges with high renewable penetration act as a key restraint on solar inverter deployment, particularly in networks with limited flexibility or aging infrastructure. Rapid ramps in solar output, voltage fluctuations, and reverse power flows can strain distribution systems and force regulators to tighten interconnection rules. Consequently, developers may face curtailment, additional grid-code requirements, or costly reinforcement investments. Additionally, delays in permitting and grid connection queues can slow project timelines, further tempering short-term demand for advanced inverters despite strong underlying policy support.

Opportunity:

Integration with smart home and virtual power plant (VPP) ecosystems

Integration with smart home and virtual power plant (VPP) ecosystems is creating a significant opportunity for inverter manufacturers by turning behind-the-meter systems into flexible grid resources. Advanced inverters with embedded communication, monitoring, and control capabilities allow aggregators to pool residential and commercial systems for demand response, frequency regulation, and capacity services. Furthermore, pairing inverters with battery storage, EV charging, and home energy management platforms enables attractive new service revenues and tariff optimization, encouraging utilities, retailers, and technology partners to collaborate on scalable, software-driven business models.

Threat:

Cybersecurity risks for connected grid-tied systems

+357 96 030922
info@marketpublishers.com

Cybersecurity risks for connected grid-tied systems represent a growing threat as solar inverters become more intelligent, networked, and remotely configurable. Vulnerabilities in communication interfaces, firmware, or cloud platforms could allow malicious actors to disrupt power flows, manipulate data, or compromise customer privacy. Moreover, regulators and utilities are tightening expectations on authentication, encryption, and patch management, raising compliance costs for manufacturers and installers. Failure to address these risks could significantly undermine stakeholder confidence, slow digitalization efforts, and expose operators to financial penalties and reputational damage globally.

Covid-19 Impact:

The pandemic initially slowed the solar inverter market as lockdowns disrupted manufacturing, logistics, and project execution, causing delays in utility-scale and commercial installations. Residential demand proved more resilient, supported by work-from-home trends and stimulus measures in some markets. As restrictions eased, deferred projects restarted and tender pipelines resumed, while policymakers reinforced green recovery agendas. Additionally, the experience highlighted supply-chain concentration risks, encouraging diversification of sourcing and greater focus on digital commissioning, remote monitoring, and future service models.

The string inverters segment is expected to be the largest during the forecast period

The string inverters segment is expected to account for the largest market share during the forecast period, supported by strong uptake in rooftop and commercial systems where project owners prioritize granular control and rapid fault isolation. Installers appreciate the simpler wiring and layout flexibility, which can reduce labor time and BOS costs. Additionally, policy incentives for distributed generation and net-metering schemes favor designs that maximize site yield, reinforcing demand for string architectures across both mature solar markets and emerging economies.

The on-grid/grid-tied segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the on-grid/grid-tied segment is predicted to witness the highest growth rate, underpinned by accelerating grid-connected solar additions in residential, commercial, and utility applications. Many governments are prioritizing grid-integrated capacity through auctions, rooftop programs, and corporate PPAs, which

+357 96 030922
info@marketpublishers.com

directly translate into demand for grid-tied inverters. Moreover, declining LCOE, improved financing structures, and better grid-planning tools are strongly enabling larger, more complex projects, further reinforcing the shift toward sophisticated inverters capable of supporting ancillary services and grid-stability functions.

Region with largest share:

During the forecast period, the Asia Pacific region is expected to hold the largest market share, supported by massive solar deployments in China, India, and other emerging economies. Rapid urbanization, rising electricity demand, and strong policy frameworks such as auctions, rooftop incentives, and manufacturing support programs underpin inverter consumption. Additionally, the region hosts major global suppliers, enabling competitive pricing and shorter lead times. Together, these factors consolidate Asia Pacific's position as the primary demand and production hub for solar inverters.

Region with highest CAGR:

During the forecast period, the Asia Pacific region is anticipated to exhibit the highest CAGR, driven by expanding solar targets, falling PV costs, and electrification across developing markets. Utility-scale projects, industrial rooftops, and community solar schemes are scaling, creating strong pull-through for advanced inverter solutions. Moreover, local manufacturing expansion, favorable financing, and regional supply chain depth support competitive project economics. As policymakers continue to prioritize clean energy and grid expansion, Asia Pacific remains the key engine of incremental inverter demand.

Key players in the market

Some of the key players in Solar Inverter Market include Huawei Technologies Co., Ltd., Sungrow Power Supply Co., Ltd., SMA Solar Technology AG, SolarEdge Technologies Inc., Enphase Energy, Inc., Fronius International GmbH, Delta Electronics, Inc., Ginlong Technologies Co., Ltd., Growatt New Energy Technology Co., Ltd., Sineng Electric Co., Ltd., GoodWe Technologies Co., Ltd., TMEIC (Toshiba Mitsubishi-Electric Industrial Systems Corporation), Schneider Electric SE, ABB Ltd., and Power Electronics S.L.

Key Developments:

In November 2025, Growatt showcased next-gen inverters at REI Expo India 2025,

+357 96 030922
info@marketpublishers.com

including MOD 15KTL3-X2 and MID 50KTL3-X2 for C&I with 98.8% efficiency, plus MAX 125KTL3-X2 LV and MAX 350KTL3-X utility-scale models.

In June 2025, Huawei Digital Power partnered with Peak Energy, signing an MoU at SNEC 2025 to deploy 700MWp C&I solar projects across APAC using Huawei's Smart PV solutions, including advanced inverters and energy storage.

In June 2025, Sungrow launched the next-generation 1+X 2.0 Modular Inverter at SNEC 2025, featuring IP66 protection, AI-driven fault detection, and grid-forming capabilities for utility-scale PV.

Product Types Covered:

- String Inverters
- Central Inverters
- Microinverters
- Hybrid Inverters

Phases Covered:

- Single-Phase Inverters
- Three-Phase Inverters

Connectivity’s Covered:

- On-Grid/Grid-Tied
- Off-Grid

Applications Covered:

- Utility-Scale (> 1 MW)

+357 96 030922
info@marketpublishers.com

- Commercial & Industrial (C&I) (20 kW $$- 1 MW)
- Residential (? 20 kW)

End Users Covered:

- New Installations
- Retrofit/Replacement

Regions Covered:

- North America
  - US
  - Canada
  - Mexico
- Europe
  - Germany
  - UK
  - Italy
  - France
  - Spain
  - Rest of Europe
- Asia Pacific

+357 96 030922
info@marketpublishers.com

Japan

China

India

Australia

New Zealand

South Korea

Rest of Asia Pacific

South America

Argentina

Brazil

Chile

Rest of South America

Middle East & Africa

Saudi Arabia

UAE

Qatar

South Africa

Rest of Middle East & Africa

What our report offers:
- Market share assessments for the regional and country-level segments

+357 96 030922
info@marketpublishers.com

- Strategic recommendations for the new entrants
- Covers Market data for the years 2024, 2025, 2026, 2028, and 2032
- Market Trends (Drivers, Constraints, Opportunities, Threats, Challenges, Investment Opportunities, and recommendations)
- Strategic recommendations in key business segments based on the market estimations
- Competitive landscaping mapping the key common trends
- Company profiling with detailed strategies, financials, and recent developments
- Supply chain trends mapping the latest technological advancements

Free Customization Offerings:

All the customers of this report will be entitled to receive one of the following free customization options:

Company Profiling

Comprehensive profiling of additional market players (up to 3)

SWOT Analysis of key players (up to 3)

Regional Segmentation

Market estimations, Forecasts and CAGR of any prominent country as per the client's interest (Note: Depends on feasibility check)

Competitive Benchmarking

Benchmarking of key players based on product portfolio, geographical presence, and strategic alliances

+357 96 030922
info@marketpublishers.com

Contents

+357 96 030922
info@marketpublishers.com

+357 96 030922
info@marketpublishers.com

+357 96 030922
info@marketpublishers.com

+357 96 030922
info@marketpublishers.com

List Of Tables

LIST OF TABLES

Note: Tables for North America, Europe, APAC, South America, and Middle East & Africa Regions are also represented in the same manner as above.

+357 96 030922
info@marketpublishers.com

I would like to order

Product name: Solar Inverter Market Forecasts to 2032 – Global Analysis By Product Type (String Inverters, Central Inverters, Microinverters, and Hybrid Inverters), Phase (Single-Phase Inverters, and Three-Phase Inverters), Connectivity (On-Grid/Grid-Tied, and Off-Grid), Application, End User, and By Geography

Product link: https://marketpublishers.com/r/SFDB6F25CA83EN.html

Price: US$ 4,150.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:
info@marketpublishers.com

Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page https://marketpublishers.com/r/SFDB6F25CA83EN.html