

Global Power Optimizer Market Size & study Forecast, by Connectivity (On-Grid, Standalone), by Application (Residential, Commercial, Utility), by End-use (Module Level, MPPT, Advanced Power Line Communication, Monitoring Components, Safety Shutdown Components, Others) and Regional Analysis, 2023-2030

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Abstracts

Global Power Optimizer Market is valued at approximately USD2.88 billion in 2022 and is anticipated to grow with a healthy growth rate of more than 10.81% during the forecast period 2023-2030. Power optimizers are electronic devices utilized in Photovoltaic (PV) systems to enhance energy harvest by regulating the output of individual solar panels. They maximize energy production by mitigating mismatch losses and mitigating shading effects. Power optimizers increase system efficiency and reliability, thereby optimizing overall PV system performance. The Global Power Optimizer Market is continuously growing due to factors such as growing awareness of energy efficiency and increasing solar PV installations.

Due to a rapid increase in solar PV installation, the demand for power optimizers has gradually increased. According to the International Energy Agency IEA, in 2022, solar PV generation surged by a record 270 TWh, marking a 26% increase to nearly 1,300 TWh. This growth outpaced all other renewable technologies, surpassing wind for the first time. The growth aligns with the Net Zero Emissions by 2050 Scenario's projections for 2023-2030. Factors such as improved economic viability of PV, robust supply chain development, and supportive policies in key regions such as China, the US, the EU, and India are propelling capacity expansion. Consequently, solar PV's tracking status was upgraded in 2023 from 'more effort needed' to 'on track.' Sustaining this

growth to meet net-zero targets may necessitate tripling annual capacity additions compared to 2022 until 2030. This results in the growth and expansion of the Power Optimizer Market globally. Moreover, government initiatives and expansion in the residential sector are opportunities for the Global Power Optimizer Market. However, the availability of alternative technologies and perception of reliability stifles market growth throughout the forecast period of 2023-2030.

The key regions considered for the Global Power Optimizer Market study includes Asia Pacific, North America, Europe, Latin America, and Middle East & Africa. Asia Pacific dominated the market in 2022 owing to factors such as rapid industrialization, rapid development in the renewable energy sector and easy installation of power optimizer. Europe is expected to grow significantly over the forecast period, owing to factors such as the expansion of residential as well as commercial infrastructure, growing awareness for energy efficiency and investments in the electrification of rural as well as remote areas that led to the market growth of Power Optimizer Market globally.

Major market player included in this report are:

Tigo Energy Inc.

I-Energy Co., Ltd

SolarEdge Technologies, Inc

Altenergy Power System, Inc

Alencon Systems, LLC

Enphase Energy

Delta Energy Systems Inc.

Solantro Semiconductor

SunPower Corporation

KACO New Energy, Inc

Recent Developments in the Market:

In December 2021, SolarEdge introduced the S-Series Power Optimizers, a fresh lineup of Power Optimizers designed to provide detailed monitoring of individual module performance, ultimately enhancing energy output and system reliability. Additionally, this new range incorporates the SolarEdge Sense Connect Application, which serves to pre-empt thermal irregularities.

In January 2022, Enphase Energy and Semper Solaris, a top home solar and battery contractor, announced a partnership to install Enphase energy systems using IQ Microinverters and IQ Batteries in residential settings. This collaboration may provide households with enhanced flexibility and control to optimize their home energy systems.

In February 2021, Delta launched the M250HV, a high-capacity string inverter designed to enhance the efficiency and ease of planning, installation, and operation of large-scale solar power plants. The new inverter features 12 MPP trackers and a 250kW power output, resulting in improved performance and flexibility.

Global Power Optimizer Market Report Scope:

Historical Data –2020 - 2021

Base Year for Estimation – 2022

Forecast period - 2023-2030

Report Coverage - Revenue forecast, Company Ranking, Competitive Landscape, Growth factors, and Trends

Segments Covered –Connectivity, Application, End-use, Region

Regional Scope - North America; Europe; Asia Pacific; Latin America; Middle East & Africa

Customization Scope - Free report customization (equivalent up to 8 analyst's working hours) with purchase. Addition or alteration to country, regional & segment scope*

The objective of the study is to define market sizes of different segments & countries in recent years and to forecast the values to the coming years. The report is designed to incorporate both qualitative and quantitative aspects of the industry within countries involved in the study.

The report also caters detailed information about the crucial aspects such as driving factors & challenges which will define the future growth of the market. Additionally, it also incorporates potential opportunities in micro markets for stakeholders to invest along with the detailed analysis of competitive landscape and product offerings of key players. The detailed segments and sub-segment of the market are explained below:

By Connectivity:

On-Grid

Standalone

By Application:

Residential

Commercial

Utility

By End-use:

Module Level MPPT

Advanced Power Line Communication

Monitoring Components

Safety Shutdown Components

Others

By Region:

North America

U.S.

Canada

Europe

UK

Germany

France

Spain

Italy

ROE

Asia Pacific

China

India

Japan

Australia

South Korea

RoAPAC

Latin America

Brazil

Mexico

Middle East & Africa

Saudi Arabia

South Africa

Rest of Middle East & Africa

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