

UNIQ SOLAR

Hybrid Solar System

Intelligent Solar Power with Battery Backup

Uninterrupted power. Greater independence. Maximum savings.

Powered by Enphase, SolarEdge, RenewSys, Adani, Waaree & other trusted global brands.

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Introduction

Experience uninterrupted power, greater energy independence, and maximum savings with Uniq Solar's Hybrid Solar Systems. Designed for homes, businesses, and industries, our hybrid solar solutions combine the efficiency of an On-Grid Solar System with the reliability of battery storage, ensuring continuous power even during grid outages.

Powered by premium technologies from global brands like Enphase, SolarEdge, RenewSys, Adani, Waaree, and other trusted manufacturers, Uniq Solar delivers intelligent solar systems engineered for long-term performance, safety, and reliability.

What is a Hybrid Solar System?

A Hybrid Solar System is an advanced solar power solution that combines solar panels, battery storage, and the utility grid into one integrated system.

Unlike a conventional on-grid solar system, a hybrid system stores excess solar energy in batteries instead of sending all unused electricity to the grid. This stored energy can be used during power outages, nighttime, or periods of low solar generation.

Hybrid systems offer the perfect balance between energy savings, energy security, and backup power, making them ideal for locations with frequent power interruptions or users who want greater energy independence.

Why Choose a Hybrid Solar System?

Uninterrupted Backup Power

Continue powering essential appliances during grid failures using stored solar energy.

Maximum Self-Consumption

Store excess solar energy generated during the day and use it when required instead of drawing electricity from the grid.

Lower Electricity Bills

Reduce dependence on conventional electricity by maximizing solar energy utilization.

Smart Energy Management

Automatically prioritizes solar power, battery storage, and grid electricity for maximum efficiency.

Greater Energy Independence

Minimize reliance on utility power while ensuring a reliable electricity supply.

Future-Ready Solution

Hybrid systems can be expanded as your energy requirements grow.

Environmentally Responsible

Reduce carbon emissions by utilizing clean renewable energy and battery storage.

Components of a Hybrid Solar System

1. Premium Solar Panels

High-efficiency photovoltaic modules capture sunlight and generate clean DC electricity. Uniq Solar offers premium solar panels from globally recognized manufacturers for maximum energy generation and long-term reliability.

2. Hybrid Solar Inverter

The hybrid inverter acts as the intelligent control center of the system. Its functions include:

- Converting DC electricity into AC
- Charging batteries
- Managing battery discharge
- Synchronizing with the utility grid
- Optimizing solar energy production
- Providing uninterrupted backup power

3. Battery Energy Storage System (BESS)

The battery stores surplus solar energy generated during the day. Stored electricity can be used:

- During power outages
- At night
- During peak electricity demand
- During cloudy weather

Depending on customer requirements, systems may include advanced Lithium-Ion Battery Storage Solutions for longer life, faster charging, and higher efficiency.

4. Solar Module Mounting Structure

Engineered mounting systems securely support solar panels while ensuring:

- Corrosion resistance
- High wind resistance
- Structural durability
- Optimal panel orientation

5. Smart Energy Meter

A smart meter continuously monitors:

- Solar generation
- Battery charging and discharging
- Grid import

- Grid export
- Household energy consumption

6. Electrical Protection System

Every Uniq Solar hybrid installation includes:

- AC & DC Protection
- Surge Protection Devices
- Lightning Arresters
- Earthing Systems
- AC & DC Combiner Boxes
- Premium Solar Cables
- MC4 Connectors

Ensuring maximum safety and long-term reliability.

How Does a Hybrid Solar System Work?

1**Solar Energy Generation**

Solar panels absorb sunlight and generate DC electricity throughout the day.

2**Powering Your Home**

The hybrid inverter converts DC electricity into AC electricity to power household appliances. Solar energy is always prioritized as the primary energy source.

3**Battery Charging**

Once your property's electricity demand is satisfied, any excess solar energy is automatically stored in the battery system.

4**Export to the Grid**

If the batteries are fully charged and additional solar power is available, excess electricity can be exported to the utility grid where net metering is applicable.

5**Battery Backup During Power Failure**

If the utility grid fails, the hybrid inverter automatically disconnects from the grid and supplies stored battery power to selected loads without interruption.

6**Automatic Grid Support**

When battery storage becomes low, the system automatically draws electricity from the utility grid to maintain continuous power.

Benefits of Battery Storage

Battery storage provides several advantages beyond simple backup power.

- Store Excess Solar Energy — capture unused solar electricity generated during the day for later use.
- Reliable Backup — continue operating critical appliances during unexpected outages.
- Peak Load Management — reduce electricity costs by using stored energy during peak tariff periods.
- Intelligent Energy Optimization — automatically selects the most economical energy source.
- Increased Solar Utilization — consume more of your own solar energy instead of exporting it.

Why Choose Uniq Solar?

10+ Years of Solar Expertise

Delivering high-performance rooftop solar solutions across residential, commercial, and industrial sectors.

Premium Global Technologies

We integrate industry-leading technologies, including:

- Enphase Energy
- SolarEdge
- RenewSys
- Adani Solar
- Waaree
- LONGi Solar
- Canadian Solar
- High-Performance Lithium Battery Systems

Customized Hybrid System Design

Every project is engineered based on:

- Daily electricity consumption
- Backup power requirements
- Roof size
- Future expansion
- Battery capacity
- Load analysis

Professional Installation

Certified engineers ensure every installation meets the highest standards for quality, safety, and long-term performance.

Smart Monitoring

Monitor your entire energy ecosystem through a mobile app or web portal. Track:

- Solar Generation
- Battery Status
- Grid Usage
- Backup Performance
- Energy Consumption
- System Health
- Historical Reports

Complete Project Management

Uniq Solar manages the entire process:

- Free Site Survey
- Energy Assessment
- System Design
- Engineering
- Installation
- Battery Integration
- Grid Connectivity
- Testing & Commissioning
- After-Sales Service

Applications

Hybrid solar systems are ideal for:

- Independent Homes
- Luxury Villas
- Apartments
- Commercial Buildings
- Retail Stores
- Offices
- Schools & Colleges
- Hospitals
- Hotels & Resorts
- Industrial Facilities
- Warehouses
- Farmhouses
- Remote Locations
- Clinics and Medical Centers

Why Invest in a Hybrid Solar System?

A hybrid solar system is the ideal solution for customers seeking both energy savings and energy security. By combining solar generation, battery storage, and intelligent energy management, it ensures continuous power, greater self-consumption of renewable energy, and reduced dependence on the utility grid. Whether you're looking to safeguard your home during outages or optimize operational costs for your business, a hybrid system delivers long-term value, resilience, and sustainability.

Frequently Asked Questions

What is the difference between an On-Grid and Hybrid Solar System?

An on-grid system relies on the utility grid and shuts down during power outages, while a hybrid system includes battery storage and can continue supplying power to selected loads during grid failures.

Does a hybrid solar system work during a power cut?

Yes. The battery storage and hybrid inverter provide backup power to essential appliances when the grid is unavailable.

Can I monitor my hybrid solar system?

Yes. Most hybrid systems include smart monitoring that lets you track solar generation, battery status, grid usage, and energy consumption in real time.

How long do batteries last?

The lifespan depends on the battery technology and usage. Modern lithium battery systems are designed for long service life with proper operation and maintenance.

Is a hybrid solar system suitable for businesses?

Absolutely. Hybrid systems help businesses reduce electricity costs, improve energy resilience, and maintain operations during grid interruptions.

Power Your Future with Uniq Solar

Choose a smarter energy solution that combines clean solar power, intelligent battery storage, and reliable backup performance. At Uniq Solar, we deliver tailored hybrid solar systems backed by premium technology, expert engineering, and dependable after-sales support.

Schedule your FREE Site Survey today and discover how a Hybrid Solar System from Uniq Solar can transform the way you power your home or business.