**Innovative Grid Services**

Empowering the furture with Smart Grid Innovation

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# High Frequency-Hybrid Inverter

Modular, high-efficiency solar inverters and power electronics using advanced SiC & GaN technology


**Advanced SiC & GaN Tech** | **60-250 KHz Upto 20 kW** | **IoT Enabled**

## PROBLEM

- High Import Dependency
- Price Volatility
- After Sales Support

## SOLUTION

- Next Generation SiC & GaN Technology
- 100% Indigenous Design
- Modular Design

## APPLICATION AREAS

**Residential Energy Systems**
Provides uninterrupted backup power and optimized solar utilization for homes

**Commercial Buildings**
Supports efficient power management for offices, malls, and institutions

**Solar Power Systems**
Integrates solar generation with battery storage and grid synchronization

**Smart Grid & Microgrids**
Enables intelligent distributed energy management and grid interaction

**EV Charging Infrastructure**
Supports stable and efficient power conversion for EV charging stations


**Industrial Applications**
Ensures reliable power for industrial loads and critical equipment

# KEY FEATURES

**Battery Management**
Smart charge/discharge with Li-ion & LFP battery support

**IoT Monitoring**
Real-time data via app, MODBUS & RS485 communication

**Dual MPPT Tracking**
Maximises solar harvest from multiple panel orientations

**Grid Forming**
Grid forming without battery

**Anti-Islanding Protection**
Grid safety compliance (IEC 62116)

**Wide Input Voltage**
60–550V DC input for flexible panel configuration

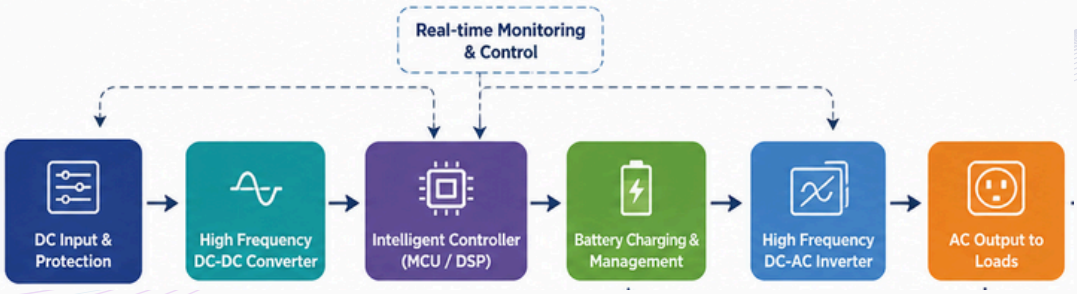
**Grid-Tied & Off-Grid**
Seamless switching between grid, solar & battery

# BENEFITS

- Improved energy efficiency and reduced electricity costs
- Reliable uninterrupted power supply
- Enhanced utilization of renewable energy
- Compact installation with space optimization
- Smart power management and monitoring
- Reduced maintenance and operational downtime
- Longer battery life with intelligent charging

# SYSTEM ARCHITECTURE

## HIGH FREQUENCY HYBRID INVERTER SYSTEM FLOW




# OPERATIONS

- Switches seamlessly between energy sources during outages
- Charges battery intelligently based on load conditions
- Maintains uninterrupted power supply for connected loads
- Continuously monitors solar, battery, and grid status

# SUPPORTED SYSTEMS

**Energy Sources**
- Solar PV Panels
- Lithium-ion Batteries
- Lead Acid Batteries
- Utility Grid Supply
- DG Backup Systems

**Output & Connectivity**
- AC Output for Residential & Industrial Loads
- Smart Monitoring Dashboard
- Wi-Fi / Ethernet / 4G Connectivity
- IoT & Cloud Integration
- Remote Configuration & Monitoring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