KEYHAN ENERGY

Keyhan Energy



WWW.Keyhanenergy.net

KEYHAN ENERGY

- Company Introduction
- Key Personnel
- Areas of Activity
- Contact Information



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KEYHAN ENERGY

Company Introduction

Keyhan Energy is a knowledge-based and innovative enterprise active in the fields of energy and power systems. Leveraging specialized technical expertise and extensive industry experience, the company delivers effective solutions tailored to the evolving needs of the energy sector.

Through precise identification of industrial challenges, we offer practical, demand-driven solutions covering all stages from engineering design to implementation and full-scale execution.

At **Keyhan Energy**, our services and products are built upon three fundamental principles: **quality, efficiency, and sustainability**. Our mission is to deliver smart, accurate, and reliable solutions that meet the real and current demands of the energy market.



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Business Areas

1. Energy Systems Engineering, Design, and Optimization
2. Custom Manufacturing and Reverse Engineering for Localization
3. Strategic Procurement of Equipment and Materials
4. Turn-key Project Execution and Project Management



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Strategic Procurement of Equipment and Supplies

Leveraging an extensive network of reputable domestic and international suppliers, Keyhan Energy Trade Development Company is capable of procuring and supplying a wide range of equipment required in renewable energy, power systems, and industrial automation.

Through professional supply chain management, accurate supplier evaluation, and adherence to quality standards, the company ensures timely delivery of high-quality equipment for various projects.

With a focus on reliable procurement, optimized delivery schedules, and equipment quality assurance, we help projects move forward with maximum efficiency and minimum execution risk.



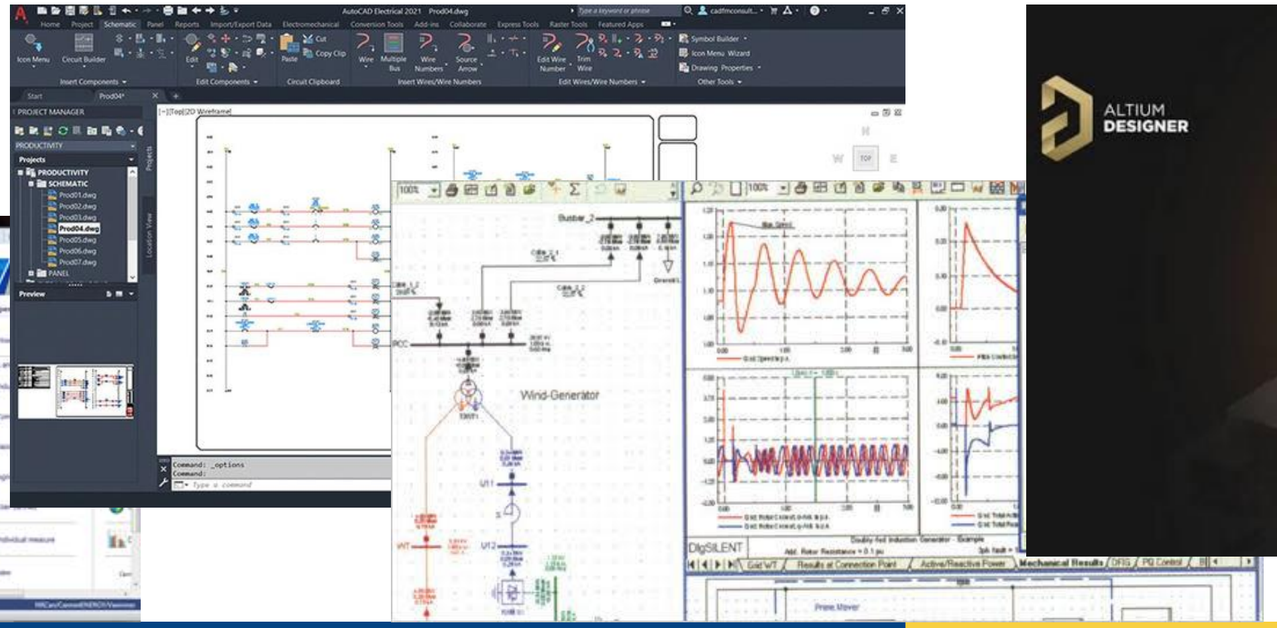
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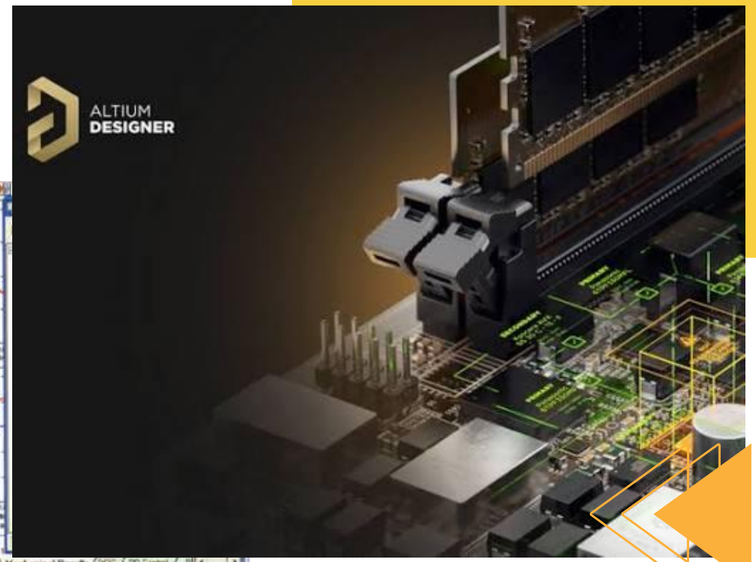
Design, Engineering, and Optimization

Combining advanced engineering expertise with intelligent analysis to design sustainable systems

PVSYST
PHOTOVOLTAIC SOFTWARE







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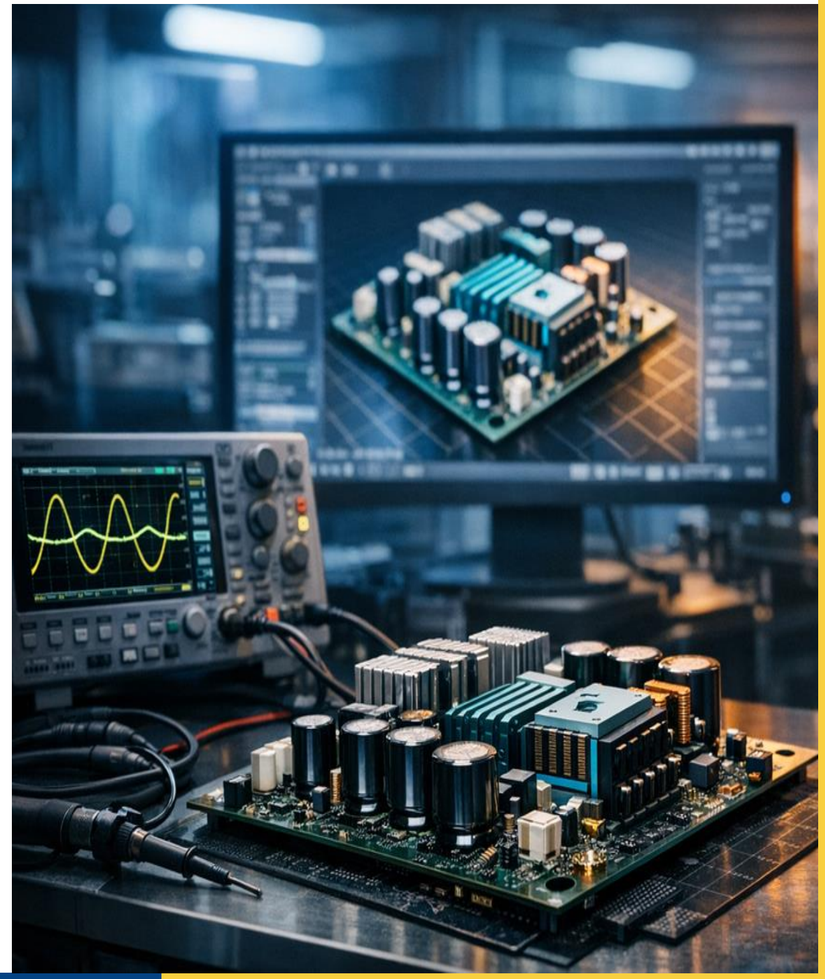
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Reverse Engineering, Localization, and Manufacturing

By leveraging specialized expertise in power electronics and energy systems engineering, we deliver reconstruction, redesign, and reverse engineering services for industrial equipment and electronic boards. This process involves detailed technical analysis of products, engineering modeling, extraction of design knowledge, and optimized remanufacturing of components and circuits.

Along this path, the company's R&D team employs advanced design, simulation, and testing tools to support technology localization, improve equipment performance, enhance reliability, and reduce dependency on foreign sources.

Our strategic focus is on developing reliable industrial products, optimizing manufacturing processes, and creating innovative solutions that respond to the evolving demands of the energy and electronics sectors.



Products

KEYHAN ENERGY

Turnkey Project Execution and Project Management

Relying on its engineering capabilities, execution experience, and specialized supply network, Keyhan Energy Trade Development Company provides turnkey project execution services in the energy sector, covering all stages from preliminary studies and conceptual design to equipment supply, manufacturing, installation, commissioning, and final delivery.

By adopting an integrated project management approach and leveraging technical standards and modern management practices, the company strives to deliver projects at the highest quality level, within a defined schedule, and with optimum cost efficiency, from execution through commissioning.

Keyhan Energy Trade Development focuses on delivering comprehensive solutions in areas such as renewable energy, power distribution and photovoltaic systems, power electronics equipment, and modern energy infrastructure.



Executed Projects

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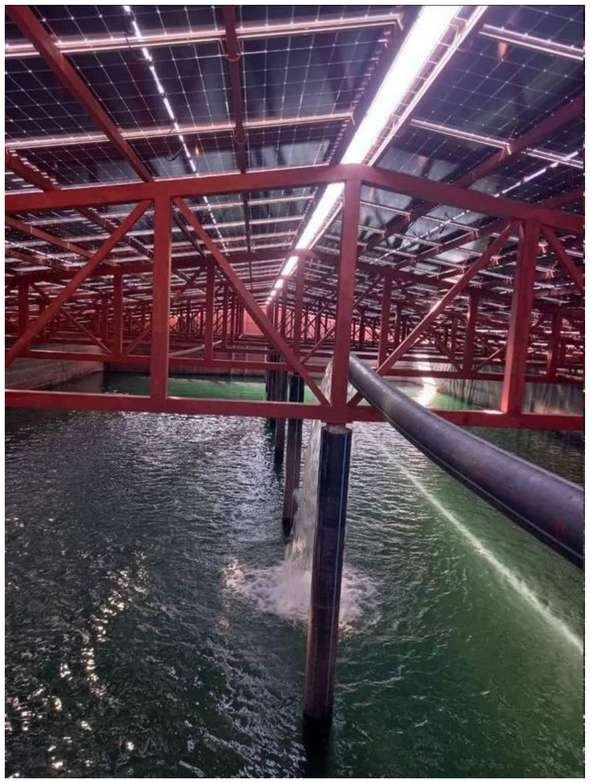
Design, Supply, and Execution of a 200 kW Rooftop Solar Power Plant - Noshan

Design, Supply, and Execution of a 400 kW Rooftop Solar Power Plant - Isaco

Design, Supply, and Execution of a 400 kW Solar Power Plant - Bardskan

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200 kW Rooftop Solar Power Plant - Design, Supply, and Execution | ISACO





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400 kW Rooftop Solar Power Plant - Design, Supply, and Execution | ISACO







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400 kW Solar Power Plant - Design, Supply, and Execution | BARDASKAN





KEYHAN ENERGY

- Online 1 KVA UPS – 12V
- Cathodic Protection Switching Power Supply
- Smart Lithium Battery Switching Chargers
- Three-Phase Bridge Inverter Controller
- Telecommunication Rectifier
- Lead-Acid Battery Charger
- Ring Lights
- Smart Touch Switches
- Smart Digital Tire Inflator
- AWG
- Industrial Diffuser

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Online 1 KVA UPS – 12V



This product is a **1000 VA single-phase UPS** with a **pure sine wave output**, designed to provide stable and reliable power for sensitive electronic equipment. It supports an external **12V/100Ah battery** and features selectable battery settings, allowing compatibility with both **sealed lead-acid** and **lithium battery technologies**. This flexibility enables users to choose the most suitable battery type based on their application requirements while ensuring uninterrupted and secure power supply.

- Apparent Power Capacity: 1000 VA
- Pure Sine Wave Output for reliable operation of sensitive electronic equipment
- Wide Input Voltage Range: 170–265 VAC
- Compatible with SLA (Sealed Lead-Acid), Lithium-Ion, and $LiFePO_4$ batteries
- Fast Charging: Approximately 6 hours to fully charge a 12V / 100Ah battery
- High Efficiency: (90% in Utility (AC) Mode / 88% in Battery Mode)

This UPS has been specifically engineered to operate reliably under challenging power conditions. With its wide input voltage tolerance, high efficiency, lithium battery compatibility, and comprehensive protection features, it is an ideal solution for residential, office, telecommunications, and other sensitive electronic applications.

The system incorporates advanced protection mechanisms against overload, short circuit, battery undervoltage, and over-temperature conditions, ensuring enhanced safety, operational stability, and extended service life for both the UPS and connected equipment.

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Cathodic Protection Switching Power Supply

The cathodic protection switching power supply is an advanced, low-power solution designed to provide stable current in corrosion protection systems. This unit is capable of operating in both constant-voltage (CV) and constant-current (CC) modes, enabling precise output adjustment and reliable control of the protection process.

- Output range: 0 to 30 V DC, 0 to 30
- Rated power: 900 W
- Pipe-to-Soil Potential measurement
- Protection functions: OTP, OCP, OVP, SCP
- Compact design, high efficiency, and reliable performance for industrial applications

- Oil, gas, and water pipelines
- Buried tanks and storage facilities
- Marine and offshore structures
- Refineries and petrochemical industries

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Smart Lithium Battery Switching Chargers

Keyhan Energy Company designs and manufactures smart lithium battery chargers using precise CC/CV charging algorithms with very high efficiency. These chargers feature adjustable output voltage and comprehensive protection systems to ensure battery safety and long service life.

- Smart charging based on precise charging curves to protect cell health
- Efficiency up to 94% to reduce energy loss and heat generation
- Multiple voltage options: 12V / 24V / 36V / 48V / 72V
- Full protection features: OCP, OVP, SCP, OTP, and reverse polarity protection
- Wide input range for stable operation over a broad voltage range

- Energy Storage Systems (ESS)
- Uninterruptible Power Supplies (UPS)
- Electric vehicles and scooters
- Telecommunications equipment
- Medical and robotic equipment

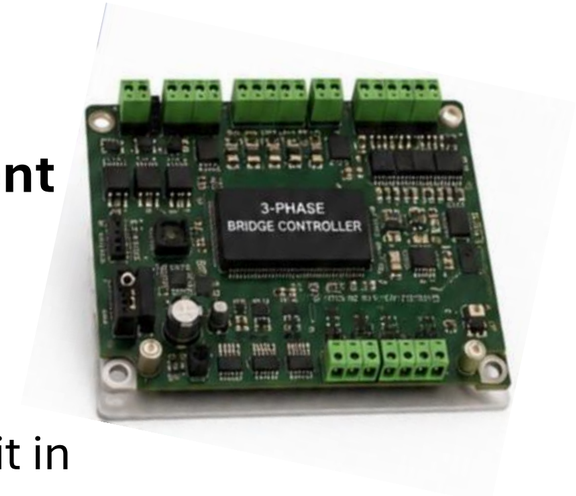




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Design and Development of an Intelligent Three-Phase Bridge Inverter Controller



This advanced control board serves as the core conversion unit in DC-to-AC three-phase inverter systems. Keyhan's controller generates precise, isolated gate signals for power switches (IGBT/MOSFET) and enables full control of output voltage and frequency for sensitive industrial applications.

- Utilizes advanced SPWM and SVPWM modulation techniques to achieve high power quality
- High-isolation gate drivers with safe interlock protection to prevent critical switching faults
- Highly accurate measurement and instantaneous control of current and voltage
- Intelligent detection and protection against overcurrent, overvoltage, short circuit, and overtemperature (OCP, OVP, SCP, OTP)

- Solar inverters and uninterruptible power supplies (UPS)
- Variable Frequency Drives (VFD)
- Energy storage systems and power equipment

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Telecommunication Rectifier



This advanced control board serves as the core conversion unit in DC-to-AC three-phase inverter systems. Keyhan’s controller generates precise, isolated gate signals for power switches (IGBT/MOSFET) and enables full control of output voltage and frequency for sensitive industrial applications.

- Stable 48 V DC output with precise voltage regulation to protect sensitive telecom equipment
- Intelligent battery management with advanced charging algorithms to extend the life of sealed lead-acid (SLA) batteries
- 19-inch rack-mount design for easy installation in industrial and telecom racks
- Zero Switching Time for seamless transfer of the load to the battery during utility power failure, without equipment reset
- Very high reliability for long-term continuous operation
- High energy efficiency with low thermal loss
- Customizable for different power ratings based on project requirements

- Data centers
- BTS stations
- Radio communication equipment
- Telecommunication towers

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Lead-Acid Battery Charger

In response to the industrial need for energy reliability, Keyhan Energy Trade Development Company offers a new generation of smart chargers for lead-acid batteries, including maintenance-free types. By precisely controlling the charging process, these chargers ensure full safety while significantly extending battery service life.

Dual Output: separate outputs for battery charging and load supply, enabling optimized power management in backup systems

Intelligent reverse polarity protection to prevent damage to both the charger and the battery

Multi-stage charging using automatic charging algorithms to maximize battery capacity without causing thermal stress

Industrial and durable design suitable for continuous operation in harsh environments and sensitive applications

- Fire alarm and security systems
- Emergency power supplies (UPS) and emergency lighting
- Medical and telecommunication equipment
- Industrial control and automation systems

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Design and Production of Advertising Ring Lights

100W Analog Ring Light



100W Digital Ring Light



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Smart Touch Switches

Leveraging capacitive sensing technology and a modern design, this range of smart touch switches offers an ideal alternative to traditional mechanical switches. Along with enhancing the aesthetics of interior spaces, these products deliver improved safety and longer operational life in lighting control systems for residential, commercial, and hospitality applications.





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Smart Digital Tire Inflator

This device is a smart and precise system designed to control tire pressure for a wide range of vehicles, from motorcycles to heavy-duty trucks, within a pressure range of 10 to 150 PSI. Using a digital control panel, it manages the inflation process fully automatically.

Equipped with advanced control circuits and electrically actuated valves, the system performs tire inflation or deflation with high precision according to the target pressure set by the user, achieving an accuracy better than 0.1 PSI. Once the desired pressure is reached, the device immediately stops operation and alerts the user through an intelligent notification system.

This high level of accuracy not only increases service speed and eliminates human error, but also plays a key role in reducing fuel consumption, preventing uneven tire wear, and enhancing driving safety.



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Atmospheric Water Generator (AWG)

The AWG is an innovative stand-alone solution for the sustainable production of drinking water. By extracting moisture from ambient air and processing it through advanced filtration, purification, and disinfection stages, the system converts atmospheric humidity into safe, high-quality potable water.

Independent of conventional water distribution networks, this technology is particularly well suited to regions with adequate humidity and limited access to water resources. Considering the climatic conditions of southern Iran and neighboring countries, the system can also serve as an effective solution for air purification and ambient temperature reduction in industrial facilities, factories, villa compounds, and commercial centers.



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Industrial Diffuser

The Keyhan industrial diffuser is a modern and efficient solution for delivering a consistent and pleasant scent in commercial and public environments. Designed with a durable metal enclosure and a minimalist appearance, it combines long service life with aesthetic appeal. With high coverage capacity and reliable performance, it is an ideal choice for high-traffic spaces, helping create a pleasant and memorable experience for customers and visitors in stores, hotels, and office centers.



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