

AUITS Solar System - Complete Documentation

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1. User Manual

1.1 Overview of System Components

The AUITS Solar System is engineered to provide seamless, eco-friendly energy solutions for residential and commercial applications. Each system includes premium-grade solar photovoltaic (PV) panels, a high-efficiency inverter, mounting structures, energy storage solutions (where applicable), and a smart monitoring system. Every component is selected to maximize output while ensuring durability under diverse weather conditions, giving users reliable access to solar energy throughout the year.

1.2 Step-by-Step Setup Instructions

The setup of your AUITS Solar System is designed for ease and efficiency. First, the designated site is assessed for maximum sun exposure. Following this, mounting structures are securely fixed, and solar panels are installed at the optimal tilt and orientation. Electrical connections are then carefully configured, linking the panels to the inverter and battery systems if included. Finally, the system is integrated into the main electrical grid or a standalone framework, depending on your setup, and tested rigorously to ensure functionality before activation.

1.3 Safety Precautions and Maintenance

To ensure safety, always disconnect the system from the power source before performing any maintenance. Regularly inspect the panels for dust, debris, or physical damage and clean them with water and a soft cloth if necessary. Do not use abrasive cleaners. Ensure that wiring and connections are intact and protected from environmental wear. It is recommended to schedule a professional inspection annually to maintain optimal system performance.

1.4 Troubleshooting Common Issues

If your system is underperforming, check for shading on the panels and clear any obstructions. Ensure that all electrical connections are secure and that the inverter displays normal operation indicators. In case of persistent issues such as no power generation or inverter faults, consult the troubleshooting guide provided

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or contact our customer service for professional assistance.

2. Installation Guide

2.1 Site Preparation and Requirements

Selecting the ideal site is crucial for maximum solar generation. The site must be free from shade throughout the day, structurally capable of supporting the panel weight, and have proximity to the electrical distribution panel. Conduct a detailed site survey to determine the best panel layout and mounting method. Ensure necessary permissions and local compliance checks are in place before beginning installation.

2.2 Mounting Solar Panels

Solar panels must be mounted using robust structures designed to withstand wind loads and environmental stress. Ground-mounted or rooftop structures should be aligned at an angle that maximizes exposure to sunlight based on geographical location. Use anti-corrosion materials and double-check structural integrity to ensure long-term performance.

2.3 Electrical Connections and Wiring

Proper electrical setup is key to system efficiency and safety. Panels are wired together using MC4 connectors, creating series or parallel arrays as designed. The array is then connected to the inverter, and if applicable, a battery storage system. Appropriate surge protection, grounding, and circuit breakers must be included to prevent electrical hazards. Use high-quality, UV-resistant cabling to maintain system longevity.

2.4 System Testing and Activation

Upon completing installation, conduct a thorough system inspection. Verify that all mechanical and electrical connections are secure. Test the inverter for proper function and confirm that the panels are generating the expected output. Activate the system and monitor performance metrics using the monitoring system to ensure optimal operation from day one.

3. Warranty Information

3.1 Warranty Period and Coverage Terms

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The AUITS Solar System is backed by a comprehensive warranty. Solar panels come with a 25-year performance warranty and a 10-year product warranty. Inverters are covered for 5 years, while batteries (if included) are warrantied for up to 7 years. The warranty covers manufacturing defects and performance degradation beyond specified limits.

3.2 Exclusions and Limitations

The warranty does not cover damages resulting from unauthorized installation, physical damage, acts of nature, or negligence. Alterations to the system or non-compliance with installation guidelines may void the warranty. Routine maintenance services are not included in the warranty coverage.

3.3 How to Claim Warranty Service

To claim warranty service, retain proof of purchase and installation records. Contact our customer support team with detailed information about the issue. A certified technician will inspect the system, and if eligible, repairs or replacements will be arranged according to warranty terms.

3.4 Contact Information for Support

For any service or support needs, please contact:

- Phone: +91-XXXX-XXXXXX
- Email: support@aitssolar.com
- Website: www.aitssolar.com

Our support team is available Monday to Saturday, 9 AM to 6 PM IST.

4. Technical Specifications

4.1 Solar Panel Output and Efficiency

AUITS solar panels offer high-efficiency rates of up to 22%, with power outputs ranging from 330W to 550W per panel. The panels are built with monocrystalline cells and are PID-resistant for sustained performance over time.

4.2 Inverter Input and Output Ratings

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The inverters used are of premium quality, with input voltage ranges of 200V-1000V DC and output ratings compatible with standard residential and commercial setups (230V/400V AC). They include MPPT (Maximum Power Point Tracking) technology for enhanced energy harvest.

4.3 Environmental Operating Conditions

The solar system components are designed to operate within a wide temperature range of -40 degreesC to 85 degreesC. All equipment is IP65/IP67 certified, ensuring protection against dust and water ingress, making the system suitable for various environmental conditions.

4.4 Certifications and Compliance Standards

AUITS Solar Systems comply with international standards such as IEC 61215, IEC 61730 for panels, and IEC 62109 for inverters. The systems are also RoHS certified, emphasizing environmental responsibility and product quality assurance.