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> Asixxsix MC2420N10 MPPT Solar Charge Controller User Manual

## Asixxsix MC2420N10

# Asixxsix MC2420N10 MPPT Solar Charge Controller User Manual

## 1. INTRODUCTION

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This manual provides essential instructions for the safe and efficient operation of your Asixxsix MC2420N10 MPPT Solar Charge Controller. This device is designed to manage power flow from your solar panels to your battery bank, ensuring optimal charging and protection for your solar power system. Please read this manual thoroughly before installation and use.

## 2. SAFETY INFORMATION

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- Ensure all connections are correct and secure before applying power.
- Do not expose the controller to water or excessive moisture.
- Install in a well-ventilated area to prevent overheating.
- Disconnect all power sources before performing any maintenance or adjustments.
- This device operates with electrical current; exercise caution to avoid electric shock.

## 3. PRODUCT OVERVIEW

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The Asixxsix MC2420N10 is an advanced MPPT (Maximum Power Point Tracking) solar charge controller designed for 12V and 24V solar power systems. It features automatic focusing MPPT tracking for premium charging efficiency and includes multiple protection mechanisms to safeguard your system.

### Key Features:

- **MPPT Tracking Charging:** Automatic focusing MPPT tracking ensures high charging efficiency with uninterrupted detection and bidirectional focusing.
- **Adjustable Parameters:** Charging parameters can be adjusted to match specific battery characteristics.
- **Multi-Protection:** Built-in protection against overheat, overcurrent, short circuit, open circuit, and reverse connection. The controller automatically recovers after fault elimination.
- **Three-Phase Charging Management:** Provides effective battery defense and extends battery lifespan.
- **Wide Application:** Suitable for home solar power generation systems, solar power stations, RVs, ships, off-grid

monitoring power supply systems, and other photovoltaic systems.



Figure 1: Front view of the Asixsix MC2420N10 MPPT Solar Charge Controller, showing the solar panel and battery connection terminals.

## 4. PACKAGE CONTENTS

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Upon opening the package, verify that all items are present and undamaged:

- 1 x Asixsix MC2420N10 Solar Charge Controller
- 1 x User Manual

## 5. INSTALLATION AND SETUP

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Follow these steps for proper installation of your solar charge controller:

1. **Mounting:** Choose a dry, well-ventilated location, away from direct sunlight and heat sources. Ensure adequate space around the controller for air circulation. Use appropriate screws to secure the controller to a flat surface.
2. **Battery Connection:** Connect the battery to the controller's battery terminals (marked with '+' and '-'). Ensure correct polarity. Connect the battery first to allow the controller to detect system voltage.
3. **Solar Panel Connection:** Connect the solar panels to the controller's solar panel terminals (marked with '+' and '-'). Ensure correct polarity. Do not exceed the maximum PV open circuit voltage of 92V (at 25°C) or 100V (at minimum ambient temperature).
4. **Load Connection (if applicable):** If your controller supports a load output, connect your DC loads to the designated load terminals. Ensure the load current does not exceed the controller's rating.



Widely used in household solar power generation system  
Solar power station system, RV, ship system, off grid  
monitoring power supply system and other photovoltaic systems



Figure 2: Side view of the controller, illustrating the various connection terminals for solar panels, battery, and load.

## 6. OPERATING INSTRUCTIONS

### Initial Power-Up:

Once all connections are made, the controller will automatically detect the battery voltage (12V or 24V) and begin the charging process. The display (if present) or indicator lights will show the current status.

### Parameter Adjustment:

The controller allows for adjustment of charging parameters. Refer to the specific instructions provided with your controller for accessing and modifying these settings. It is crucial to understand your battery's specifications before making any changes to avoid damage.

### Charging Process:

The MPPT technology continuously tracks the maximum power point of your solar panels to extract the most power possible, optimizing charging efficiency. The three-phase charging management system ensures the battery is charged safely and effectively, prolonging its lifespan.



Uninterrupted detection during the charging process,  
 Bidirectional focusing and tracking are carried out.  
 Adjustable charging and discharging parameters  
 Perfect three phase charging management  
 Effective battery protection



Figure 3: The solar charge controller integrated into a larger solar power system, demonstrating its role in managing power flow.

## 7. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your solar charge controller:

- **Inspect Connections:** Periodically check all wiring connections for tightness and corrosion.
- **Cleanliness:** Keep the controller clean and free from dust and debris. Use a dry cloth for cleaning.
- **Ventilation:** Ensure that the ventilation openings are not obstructed to prevent overheating.
- **Environmental Check:** Verify that the operating environment remains within the specified temperature and humidity ranges.

## 8. TROUBLESHOOTING

If you encounter issues with your controller, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
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Problem	Possible Cause	Solution
No charging	Incorrect wiring, low solar input, battery deeply discharged.	Check all connections for correct polarity and tightness. Ensure sufficient sunlight on solar panels. Check battery voltage.
Overheating	Poor ventilation, excessive load.	Ensure adequate airflow around the controller. Reduce connected load if necessary.
Error indicator light on	System fault (e.g., short circuit, reverse polarity).	Identify and correct the fault. The controller should automatically recover.

## 9. SPECIFICATIONS

- **Model:** MC2420N10
- **Voltage:** 12V, 24V (Automatic Detection)
- **Maximum PV Open Circuit Voltage:** 92V (at 25°C); 100V (at minimum ambient temperature)
- **Operating Temperature:** -35°C to +45°C
- **Altitude:** ≤ 3000m / 9842.5ft
- **Dimensions:** Approximately 8.27 x 5.91 x 3.15 inches (Package Dimensions)
- **Item Weight:** Approximately 2.62 pounds



Figure 4: Rear view of the controller, highlighting the heat sink design for efficient heat dissipation.

## 10. WARRANTY AND SUPPORT

For warranty information or technical support, please contact Asixsix customer service. Refer to your purchase

documentation for specific warranty terms and contact details.

You can also visit the [Asixsix Store on Amazon](#) for more product information.