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Zamp Solar 10AW Solar Charge Controller User Manual

Model: 10AW

INTRODUCTION

This manual provides comprehensive instructions for the installation, operation, and maintenance of your Zamp Solar 10AW Solar Charge Controller. Designed to optimize the charging process for your solar battery system, this controller ensures efficient power management and extends battery life. Please read this manual thoroughly before installation and operation to ensure safe and correct usage.

SAFETY INFORMATION

Always observe the following safety precautions to prevent personal injury or damage to the controller and connected equipment:

- Ensure all wiring is correctly polarized before connecting to the controller. Reverse polarity can cause severe damage.
- Do not exceed the maximum input voltage or current ratings of the controller.
- Disconnect all power sources (solar panels and battery) before performing any installation, wiring, or maintenance.
- Install the controller in a well-ventilated area, away from flammable materials and direct sunlight.
- This controller is waterproof/weatherproof, but avoid submerging it in water.
- Only qualified personnel should perform electrical work.
- Protect against short circuits and over-temperature conditions.

PRODUCT OVERVIEW

Key Features

- Waterproof/Weatherproof design for durability in various environments.
- Advanced MCU Control Pulse Width Modulation (PWM) Technology for optimal battery life and high efficiency.
- Floating Feature to maintain battery charge and prevent over-drying.

- Protects batteries from discharge at night by preventing current flowing back from the batteries into the panel.
- Multi-charging protections against reverse polarity, short circuit, over temperature, and over voltage.

Components and Display

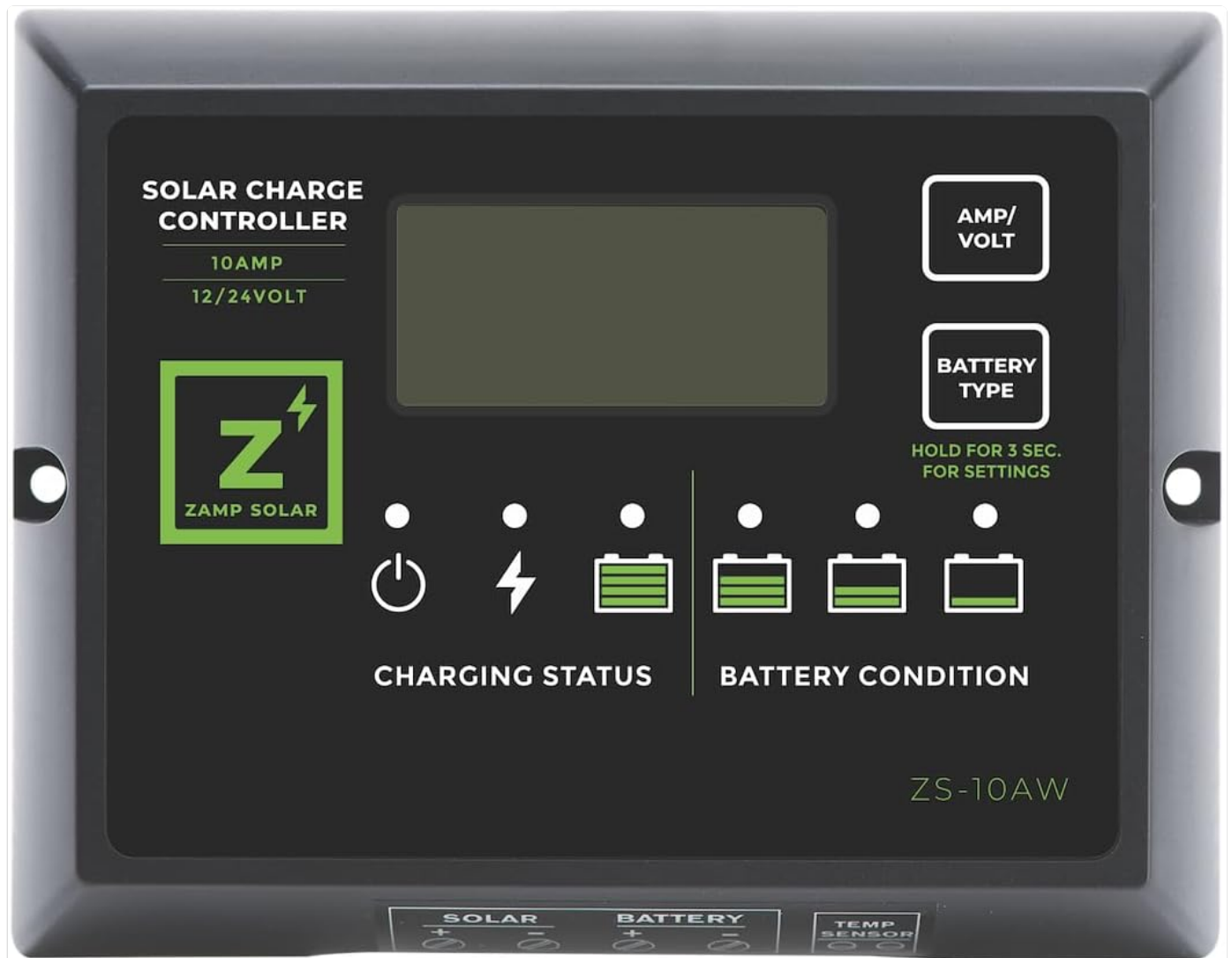


Figure 1: Zamp Solar 10AW Solar Charge Controller Front Panel

The Zamp Solar 10AW Solar Charge Controller features a clear front panel for easy monitoring and control. Key elements include:

- **LCD Display:** Shows current voltage, amperage, and other operational data.
- **AMP/VOLT Button:** Press to cycle through display modes, showing current amperage or voltage.
- **BATTERY TYPE Button:** Press and hold for 3 seconds to enter settings mode and select the battery type (e.g., Lead-Acid, Gel, AGM).
- **Charging Status Indicators:** A series of lights indicating the current charging activity from the solar panels.
- **Battery Condition Indicators:** A series of battery icons showing the approximate charge level of the connected battery.
- **Zamp Solar Logo:** Identifies the brand and model (ZS-10AW).

SETUP AND INSTALLATION

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

1. **Mounting:** Choose a suitable location for mounting the controller. It should be easily accessible, well-ventilated, and

protected from direct sunlight and excessive heat. Use appropriate fasteners for secure mounting.

2. **Wiring Sequence:** It is crucial to connect the components in the correct order to prevent damage.
 - **Step 1: Connect Battery:** Connect the battery to the "BATTERY +" and "BATTERY -" terminals on the controller. Ensure correct polarity. The controller should power on.
 - **Step 2: Connect Solar Panels:** Connect the solar panels to the "SOLAR +" and "SOLAR -" terminals. Ensure correct polarity. The charging status indicator should illuminate if there is sufficient solar input.
 - **Step 3: Connect Temperature Sensor (Optional):** If using an external temperature sensor, connect it to the "TEMP SENSOR" terminals. This allows for temperature compensation during charging.
3. **Initial Configuration:**
 - Once powered, press and hold the "BATTERY TYPE" button for 3 seconds to enter the battery type selection mode.
 - Use the "AMP/VOLT" button to cycle through available battery types (e.g., GEL, AGM, FLOODED).
 - Press the "BATTERY TYPE" button again briefly to confirm your selection and exit settings mode.

Note: Always ensure all connections are tight and secure to prevent voltage drops and potential hazards.

OPERATING INSTRUCTIONS

The Zamp Solar 10AW controller operates automatically once properly installed and configured. Here's how to monitor its status:

- **Monitoring Display:**

Press the "AMP/VOLT" button to toggle between displaying the current charging amperage (AMP) and the battery voltage (VOLT) on the LCD screen.

- **Charging Status Indicators:**

The lights under "CHARGING STATUS" indicate the presence and strength of solar input and active charging. A solid light typically means charging is active.

- **Battery Condition Indicators:**

The battery icons under "BATTERY CONDITION" provide a visual representation of the battery's state of charge. More illuminated segments indicate a higher charge level.

MAINTENANCE

The Zamp Solar 10AW Solar Charge Controller requires minimal maintenance. Regular checks ensure optimal performance and longevity:

- **Visual Inspection:** Periodically inspect the controller and all wiring connections for any signs of damage, corrosion, or loose connections.
- **Cleaning:** Keep the controller's surface clean and free of dust and debris. Use a soft, dry cloth. Do not use abrasive cleaners or solvents.
- **Ventilation:** Ensure the area around the controller remains clear to allow for proper heat dissipation.

TROUBLESHOOTING

If you encounter issues with your Zamp Solar 10AW controller, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
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Problem	Possible Cause	Solution
Controller display is off.	No power from battery or reverse polarity.	Check battery connections and ensure correct polarity. Verify battery voltage.
No charging indicated.	Insufficient solar input, panel disconnected, or incorrect polarity.	Check solar panel connections and polarity. Ensure panels are receiving sunlight. Verify panel voltage.
Inaccurate battery readings.	Incorrect battery type setting or faulty connection.	Verify the battery type setting matches your battery. Check battery connections for looseness or corrosion.
Over-temperature warning.	Poor ventilation or excessive load.	Ensure adequate airflow around the controller. Reduce load if possible.

SPECIFICATIONS

Feature	Detail
Model Number	10AW (ZS-10AW)
Brand	Zamp Solar
Voltage	12 Volts
Item Weight	4.8 ounces
Product Dimensions	6 x 4 x 1 inches
Charging Port Type	MC4
Display Type	LCD
Color	Black
First Available Date	February 16, 2015
UPC	893684002206

WARRANTY AND SUPPORT

For specific warranty details and terms, please refer to the documentation included with your purchase or visit the official Zamp Solar website. Zamp Solar provides customer support for product inquiries, technical assistance, and warranty claims.

No official product videos were found in the provided data.