

## ATEM POWER AP-VABS002-UFA

# ATEM POWER Trailer Brake Controller Kit

## INSTRUCTION MANUAL



### 1. Introduction

This instruction manual provides comprehensive guidance for the installation, operation, and maintenance of your ATEM POWER Trailer Brake Controller Kit. This system is designed to enhance towing safety by automatically activating electric trailer brakes in the event of a trailer breakaway. Featuring a built-in LiFePO4 battery and a solar panel for charge maintenance, this unit offers reliable performance for 1 or 2 axle caravans and trailers equipped with electric brakes.



Figure 1: Overview of the ATEM POWER Trailer Brake Controller Kit, showcasing the main unit with its integrated solar panel and the accompanying breakaway switch.

### 2. Safety Information

## WARNING:

- Always ensure the trailer breakaway system is properly installed and tested before each towing operation.
- This device is designed to activate trailer brakes in a breakaway situation; it is not a substitute for proper trailer hitching and safety chain usage.
- The unit has an IP65 waterproof rating, providing protection against dust and low-pressure water jets. However, it is recommended to keep the unit away from direct exposure to heavy rainstorms to ensure long-term reliability.
- Do not attempt to open or modify the unit. Refer all servicing to qualified personnel.
- Ensure all wiring connections are secure and properly insulated to prevent short circuits.

## 3. Package Contents

Verify that all components are present in the package:

- 1 x ATEM POWER Solar Trailer Brake Controller
- 1 x User Manual
- 1 x Switch



Figure 2: Included components and approximate dimensions of the controller unit.

## 4. Setup and Installation

Follow these steps for proper installation of the ATEM POWER Trailer Brake Controller Kit:

### 4.1 Mounting the Breakaway Controller

Decide the best location for mounting the unit. It should be a solid surface, typically on the trailer drawbar. Ensure that the solar panel faces upwards. This orientation allows the panel the maximum possible time to collect sunlight and convert it into energy, helping to maintain the internal battery's charge.



Figure 3: Step 1 - Securely mount the breakaway controller unit to a solid surface on the trailer drawbar, ensuring the solar panel faces upwards for optimal sunlight exposure.

## 4.2 Mounting the Breakaway Switch

Position the breakaway switch on the drawbar of the trailer, as depicted in the diagram below. This placement is critical for proper engagement of the switch in the event of a trailer detachment.



Figure 4: Step 2 - Position the breakaway switch on the trailer drawbar as shown, ensuring proper engagement for the breakaway function.

## 4.3 Wiring Diagram

The kit comes with pre-wired, color-coded cables for easy connection. Refer to the diagram for correct wiring:

- **Black Wire:** Connect to the 12V battery positive terminal.
- **Blue Wire:** Connect to the electric brakes.
- **White Wire:** Connect to ground.



Figure 5: Wiring connections for the trailer brake controller system.

Ensure all connections are secure and protected from environmental elements. The unit is designed for use on

1 or 2 axle caravans and trailers equipped with electric brakes.



Figure 6: The controller is suitable for use on 1 or 2 axle caravans and trailers equipped with electric brakes, demonstrating its wide application.

## 5. Operating Instructions

The ATEM POWER Trailer Brake Controller is designed for simple operation and status monitoring.

### 5.1 Battery Status Indicators

The unit features LED indicators to display the charge status of the built-in LiFePO4 battery:

- **Yellow LED:** Charging
- **Red LED:** Low Battery
- **Green LED:** Fully Charged



Figure 7: The control unit features LED indicators for 'Charging', 'Low', and 'Fully Charged' battery status.

### 5.2 Test Button Functionality

Press the 'TEST' button on the unit to verify the battery's charge status before towing. This ensures the LiFePO4 battery is properly charged and ready for operation.

### 5.3 Breakaway System Activation

In the event that your towing vehicle and trailer become disconnected, the breakaway switch will activate the electric trailer brakes automatically and swiftly. This action is crucial for bringing the trailer to a safe and controlled stop, enhancing road safety.

**NOTE: The built-in solar panel is designed to prevent the trailer breakaway controller from running out of power during storage or prolonged periods of non-use. It is not intended as the primary charging method for a completely depleted battery.**

## 6. Maintenance

To ensure optimal performance and longevity of your ATEM POWER Trailer Brake Controller, consider the following maintenance guidelines:

- **Regular Inspection:** Periodically inspect the unit, wiring, and connections for any signs of wear, damage, or corrosion. Ensure all mounting hardware remains secure.
- **Cleanliness:** Keep the solar panel clean and free from dirt, dust, or debris to maximize its efficiency in maintaining battery charge. Use a soft, damp cloth for cleaning.
- **Environmental Protection:** While the unit is IP65 rated, prolonged exposure to extreme weather conditions, especially heavy rainstorms, should be minimized. Consider additional protection if the trailer is stored outdoors for extended periods in harsh climates.
- **Battery Care:** The built-in LiFePO4 battery offers a longer lifespan and lower self-discharge rate compared to traditional AGM batteries. Regularly check the LED indicators to ensure the battery is adequately charged, especially before long trips.

## 7. Troubleshooting

If you encounter issues with your ATEM POWER Trailer Brake Controller, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
Unit not powering on / No LED indication	<ul style="list-style-type: none"><li>◦ Disconnected or faulty wiring.</li><li>◦ Completely depleted internal battery.</li><li>◦ Faulty unit.</li></ul>	<ul style="list-style-type: none"><li>◦ Check all wiring connections (Black, Blue, White) for secure contact.</li><li>◦ Ensure the 12V battery connection is live.</li><li>◦ Allow the unit to sit in direct sunlight for several hours to allow the solar panel to provide a maintenance charge. If still no power, a manual charge might be needed (consult a professional).</li><li>◦ If issues persist, contact ATEM POWER support.</li></ul>
Red "Low" LED constantly on	<ul style="list-style-type: none"><li>◦ Internal battery is low.</li><li>◦ Insufficient sunlight exposure for solar panel.</li></ul>	<ul style="list-style-type: none"><li>◦ Ensure the solar panel is clean and unobstructed.</li><li>◦ Park the trailer in direct sunlight for an extended period.</li><li>◦ Verify the 12V battery connection is providing charge to the unit.</li></ul>

Problem	Possible Cause	Solution
Breakaway brakes not activating	<ul style="list-style-type: none"> <li>◦ Breakaway switch not properly engaged.</li> <li>◦ Wiring issue to electric brakes.</li> <li>◦ Internal battery too low to provide sufficient power.</li> </ul>	<ul style="list-style-type: none"> <li>◦ Check the breakaway switch for proper installation and functionality.</li> <li>◦ Inspect the blue wire connection to the trailer's electric brakes.</li> <li>◦ Ensure the internal battery is fully charged (Green LED).</li> </ul>

## 8. Specifications

Feature	Detail
Brand	ATEM POWER
Model Number	AP-VABS002-UFA
Product Dimensions	6.72" L x 3.56" W x 1.93" H
Item Weight	1.85 pounds
Maximum Voltage	12 Volts
Maximum Power (Solar Panel)	0.63 Watts
Battery Type	LiFePO4 (Lithium Iron Phosphate)
Battery Capacity	3AH
Waterproof Rating	IP65
Application	1 or 2 axle caravans and trailers with electric brakes

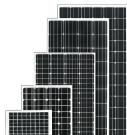
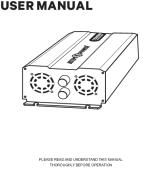
## 9. Warranty and Support

The ATEM POWER Trailer Brake Controller Kit is backed by a **1-Year Warranty** from the date of purchase.

This warranty covers defects in materials and workmanship under normal use.

For warranty claims, technical support, or any inquiries regarding your product, please contact ATEM POWER customer service through their official website or the retailer where the product was purchased. Please have your model number (AP-VABS002-UFA) and proof of purchase ready when contacting support.

## Related Documents

 ATEM POWER® 10W/60W/130W/200W/250W Solar Panel USER MANUAL 	<p><a href="#">ATEM POWER 10W/60W/130W/200W/250W Solar Panel User Manual</a></p> <p>User manual for ATEM POWER solar panels (10W, 60W, 130W, 200W, 250W), covering product features, safety information, installation, troubleshooting, and warranty details.</p>
 ATEM POWER® DC-DC CHARGER AP20DC USER MANUAL 	<p><a href="#">ATEM POWER AP20DC DC-DC Charger User Manual and Installation Guide</a></p> <p>Comprehensive user manual for the ATEM POWER AP20DC DC-DC charger. Covers features, safety instructions, installation, usage, deep cycle battery maintenance, troubleshooting, technical specifications, and warranty information for charging auxiliary batteries in vehicles, caravans, and RVs using DC or solar power.</p>
 ATEM POWER® 1500W DC-AC PURE SINE WAVE INVERTER USER MANUAL 	<p><a href="#">ATEM POWER 1500W DC-AC Pure Sine Wave Inverter User Manual</a></p> <p>User manual for the ATEM POWER 1500W DC-AC Pure Sine Wave Inverter, detailing product features, applications, technical specifications, safety information, installation, operation, troubleshooting, and warranty.</p>
 ATEMPOWER Maximum Power Point Tracking (MPPT) Solar Charge Controller AP20MT USER MANUAL 	<p><a href="#">ATEMPOWER AP20MT MPPT Solar Charge Controller User Manual</a></p> <p>Comprehensive user manual for the ATEMPOWER AP20MT MPPT Solar Charge Controller. Covers installation, operation, safety, technical specifications, troubleshooting, and warranty information for 12V/24V systems.</p>