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› DROK Voltage Amp Meter DC User Manual

DROK WLS-PVA200

Instruction Manual

DROK Voltage Amp Meter DC, Battery Monitor DC 0-300V 200A

Model: WLS-PVA200 | Brand: DROK

1. INTRODUCTION AND OVERVIEW

The DROK WLS-PVA200 Voltage Amp Meter is a versatile DC power monitoring device designed for various applications, including solar systems, battery setups, and general power measurement. It provides comprehensive data on battery capacity, voltage, current, power, and accumulated energy, ensuring reliable and safe operation with its isolated Hall sensor measurement.



Figure 1: DROK Voltage Amp Meter and Hall Sensor.

2. PRODUCT FEATURES

- **Multifunctional Measurement:** Measures percentage and AH of remaining capacity, DC positive and negative bidirectional current, DC voltage, DC positive and negative power, and DC positive and negative bidirectional accumulated electric energy.
- **Wide Measurement Range:** Voltage measurement range is DC 0-300V, and current measurement range is 0-200A.
- **Hall Sensor for Isolated Measurement:** Comes with a Hall transformer for isolated, reliable, and safe current measurement.
- **Flexible Power Connection:** Supports both two-wire and three-wire system connections, powered by DC 5-90V.
- **Clear LCD Display:** Equipped with a full-angle view LCD screen with controllable backlight for clear visibility in various lighting conditions.
- **Alarming Functionality:** Provides visual alarms (flashing display) for over/under voltage, over current, and low battery capacity, prompting timely action.

- **Data Storage:** Retains electric data even when power is off, preventing data loss.
- **Broad Compatibility:** Suitable for various battery types, including Lead-acid, Lithium Polymer, and Lithium Iron Phosphate batteries.

3. PACKAGE CONTENTS

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

- 1 x DROK Voltage Amp Meter (WLS-PVA200)
- 1 x Hall Sensor (Current Transformer)
- Connecting Cables
- User Manual (Printed)





Figure 2: Front view of the meter and Hall Sensor.

4. SETUP AND INSTALLATION

Proper wiring is essential for accurate measurement and safe operation. The meter supports both two-wire and three-wire connection methods. The Hall sensor provides isolated measurement, meaning the current-carrying wire passes through the sensor without direct electrical contact with the meter's internal circuitry.

4.1 Hall Sensor Placement

The Hall sensor must be installed correctly. The current-carrying wire (typically the positive lead from the battery to the load/controller) should pass through the center hole of the Hall sensor. Ensure the arrow indicator on the Hall sensor points in the direction of the current flow (towards the load when measuring discharge, or towards the battery when measuring charge if both are passed through).



Figure 3: Hall Sensor with 20mm (0.79in) inner diameter.

4.2 Wiring Diagrams

Refer to the following diagrams for connection methods:

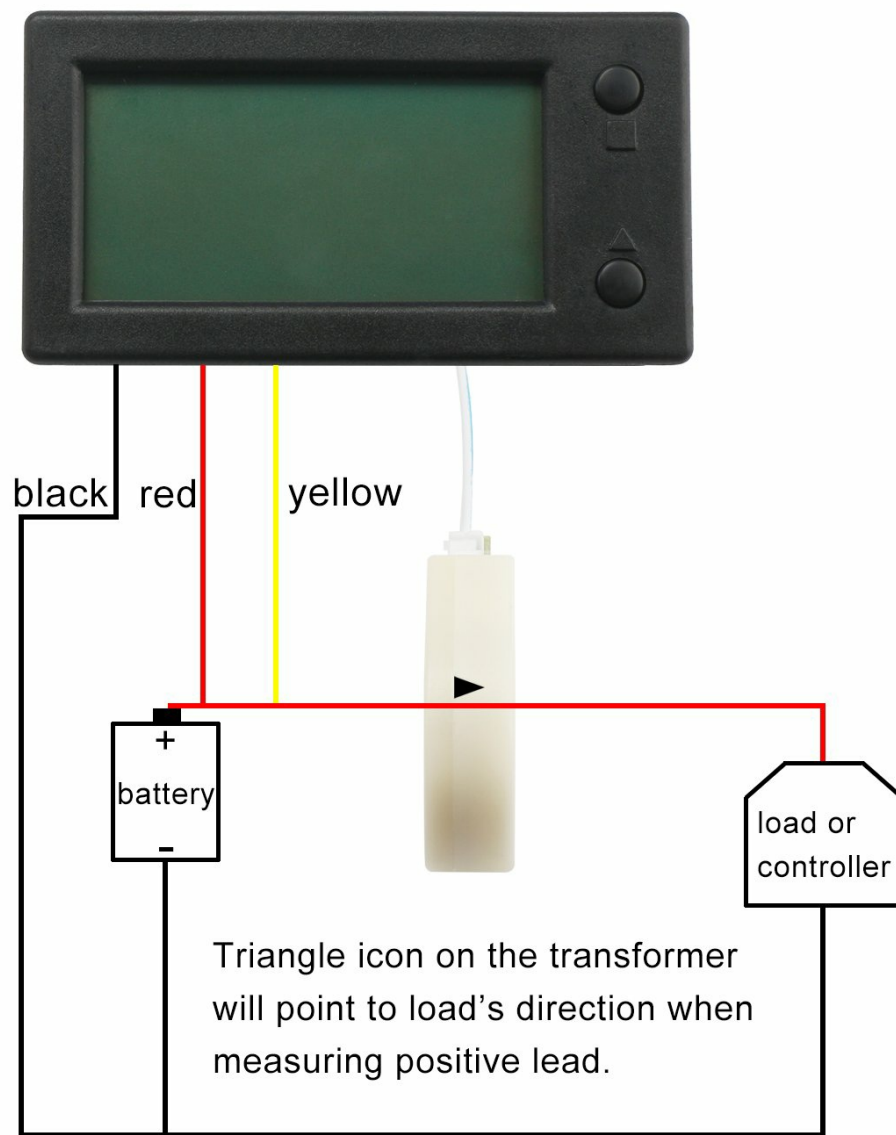


Figure 4: Two-Wire System Connection. In this setup, the meter is powered by the same battery it monitors. The red wire connects to the positive terminal of the battery, and the black wire connects to the negative terminal. The yellow wire connects to the positive side of the load or controller. The Hall sensor is placed on the positive lead between the battery and the load/controller, with the arrow pointing towards the load.

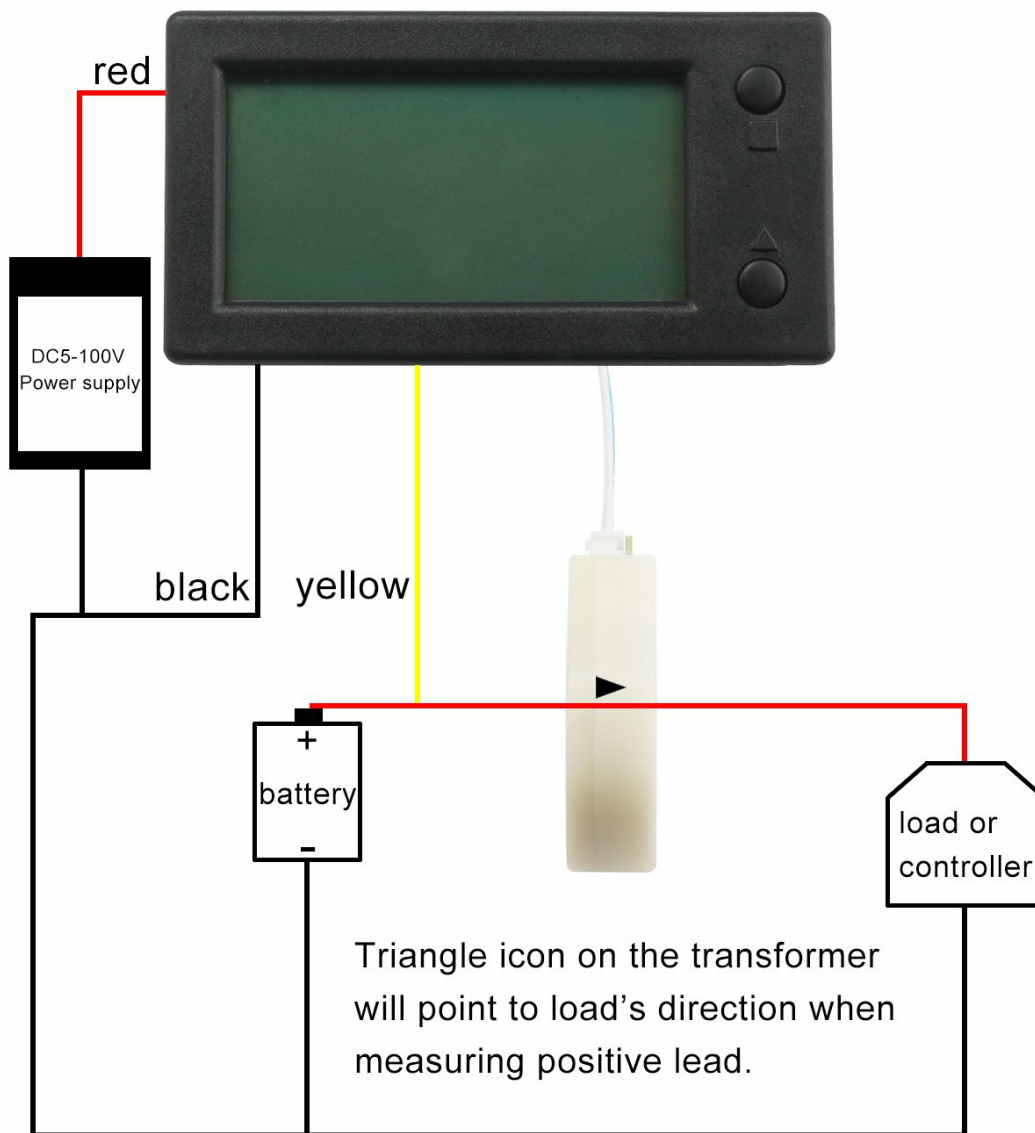


Figure 5: Three-Wire System Connection. For this method, the meter is powered by an independent DC 5-90V power supply. The red wire connects to the positive terminal of the external power supply, and the black wire connects to its negative terminal. The yellow wire connects to the positive side of the battery or system being monitored. The Hall sensor is placed on the positive lead between the battery and the load/controller, with the arrow pointing towards the load.

4.3 Installation Video Guide

For a visual guide on setting up the DROK Battery Monitor, please watch the official video below:

Your browser does not support the video tag.

Video 1: Official DROK 200542 300V Battery Monitor Setup Guide. This video demonstrates the physical components and basic setup steps for the meter, including connecting the Hall sensor and power leads.

5. OPERATING INSTRUCTIONS

The meter features a user-friendly interface with two buttons for navigation and settings adjustment.

5.1 Display Overview

The LCD screen provides real-time data. Understanding each displayed value is key to effective monitoring:

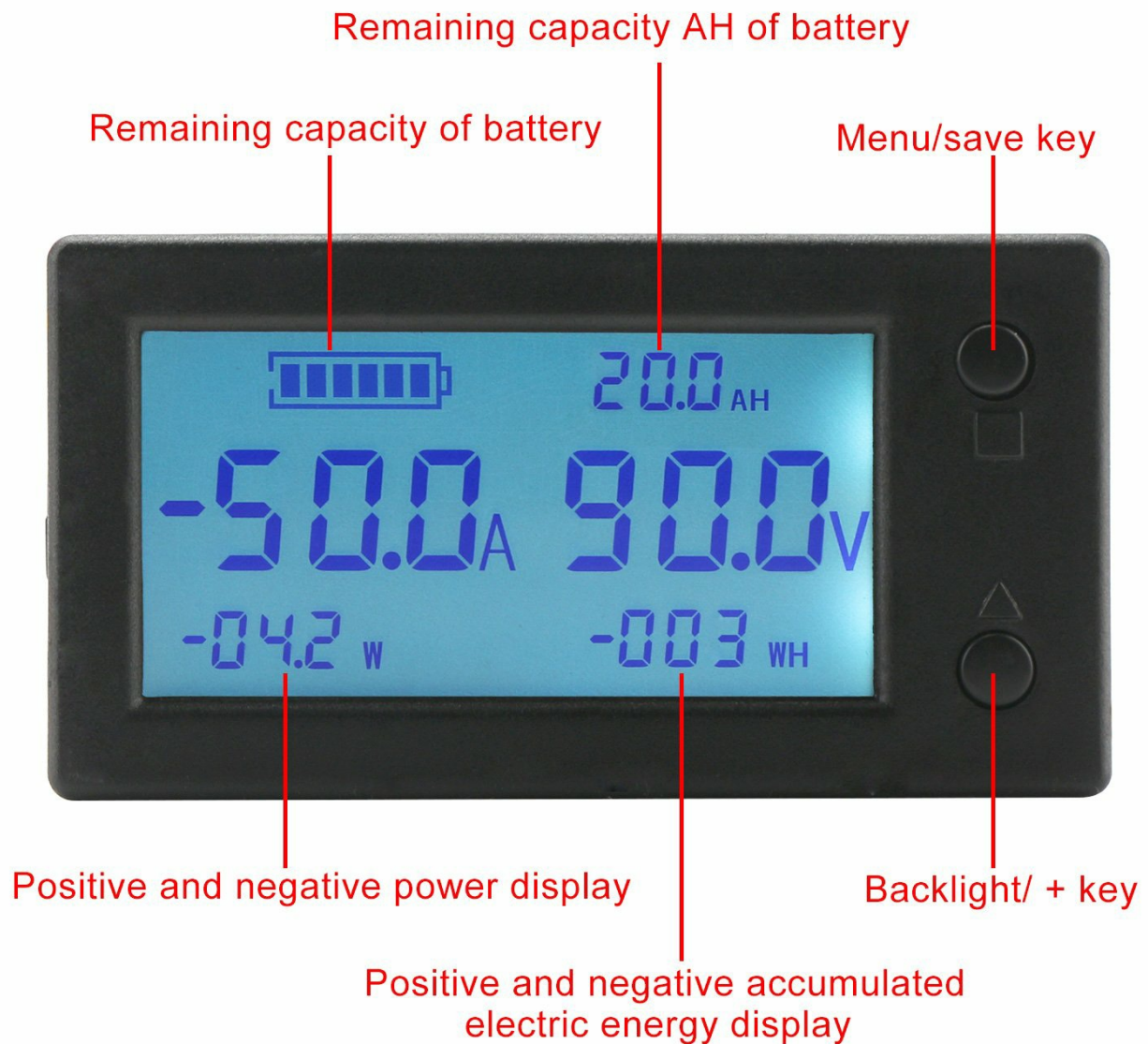


Figure 6: Display Breakdown. The display shows: Remaining capacity (percentage and AH), DC positive and negative bidirectional current (Amps), DC voltage (Volts), DC positive and negative power (Watts), and DC positive and negative accumulated electric energy (Watt-hours).

5.2 Button Functions

• Top Button (Menu/Save Key):

- Short press: Navigate through menu options or change values.
- Long press (approx. 4 seconds): Enter/Exit setup mode, save settings.

• Bottom Button (Backlight/+ Key):

- Short press: Toggle backlight ON/OFF.
- Long press (approx. 2 seconds): Calibrate current to 0 (when no load is connected and battery is fully charged).

5.3 Initial Setup and Calibration

For accurate battery monitoring, it is crucial to set the correct battery capacity and full voltage. Some menu options (CU, AA, AU) are for other versions and should be ignored or set to 000.0 if present.

1. Set Battery Capacity (AH):

- Enter setup mode by long-pressing the top button.
- Navigate to the "AH" setting.
- Adjust the value to match your battery's Amp-Hour capacity.

2. Set Full Voltage (FU/FV):

- While in setup mode, navigate to the "FU" (or "FV") setting.
- Set this value to the minimum voltage at which your battery is considered fully charged.

3. **Save Settings:** After adjusting AH and FU, long-press the top button again until the display flashes to confirm saving.

4. **Calibrate Amps to Zero:** Once settings are saved and the battery is fully charged with no electrical load connected, short-press the bottom button for approximately 2 seconds. This calibrates the current reading to 0, and the battery indicator will show full.

Note: Occasional recalibration of amps to 0 may be necessary over time due to battery aging or changes in system conditions.

6. ALARM FUNCTION

The meter includes an alarm function to alert you to critical battery conditions:

- **Voltage Alarm:** The display will flash if the measured voltage is higher or lower than the preset alarming voltage thresholds.
- **Current Alarm:** The display will flash if the measured current exceeds the preset current threshold.
- **Low Capacity Alarm:** The display will flash to remind you to charge your device when the remaining battery capacity falls below a preset low level.

These alarm thresholds can be configured within the meter's settings to suit your specific application and battery requirements.

7. MAINTENANCE

To ensure the longevity and continued accuracy of your DROK Voltage Amp Meter, follow these simple maintenance guidelines:

- **Cleaning:** Wipe the display and casing with a soft, dry cloth. Avoid using abrasive cleaners or solvents that could damage the screen or plastic.
- **Connections:** Periodically check all wiring connections to ensure they are secure and free from corrosion. Loose connections can lead to inaccurate readings or device malfunction.
- **Environment:** Operate the meter within its specified environmental conditions (temperature, humidity) to prevent damage.
- **Recalibration:** As mentioned in the operating instructions, occasional recalibration of the current to zero (when no load is present and the battery is fully charged) can help maintain accuracy over time.

8. TROUBLESHOOTING

If you encounter issues with your DROK Voltage Amp Meter, consider the following common problems and solutions:

Problem	Possible Cause	Solution
No display/Meter not powering on	Incorrect wiring; Insufficient power supply voltage; Loose connections.	Verify wiring according to diagrams (Figures 4 & 5). Ensure power supply is within DC 5-90V range. Check all wire connections for tightness.
Inaccurate current (Amp) readings	Hall sensor installed incorrectly (arrow direction); Sensor not properly calibrated; External magnetic interference.	Ensure Hall sensor arrow points in the correct current flow direction. Perform a zero-current calibration (long-press bottom button with no load). Relocate meter away from strong magnetic fields if possible.
Battery capacity (AH) or percentage incorrect	Incorrect AH or FU (Full Voltage) settings; Battery not fully charged for initial calibration.	Re-enter setup mode and verify AH and FU settings match your battery specifications. Ensure battery is fully charged before performing zero-current calibration.
Display flashing (Alarm)	Voltage, current, or capacity outside preset limits.	Check your system's voltage, current, or battery capacity. Adjust alarm thresholds in settings if they are too sensitive for your application.

9. SPECIFICATIONS

Parameter	Value
Model Number	WLS-PVA200
Voltage Measurement Range	DC 0-300V
Current Measurement Range	0-200A
Voltage Supply Range	DC 5-90V
Display Type	LCD with Backlight
Current Sensor Type	Hall Sensor
Data Storage	Yes (Power-down storage)
Dimensions (Meter)	Approx. 79mm x 42mm x 25mm (L x W x H)
Hall Sensor Inner Diameter	Approx. 20mm (0.79in)





Figure 7: Meter dimensions and connections.

10. WARRANTY AND SUPPORT

DROK products are designed for reliability and performance. We stand by the quality of our products and offer comprehensive support.

- **Warranty:** Each product purchased from DROK comes with a one-year warranty period.
- **Replacement Policy:** In the event of any quality issues with your item within the warranty period, you are eligible for a brand new replacement.
- **Contact Support:** For technical assistance, troubleshooting, or warranty claims, please contact DROK customer support through the platform where you purchased the product.

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question

and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question