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› Greluma 0.28" Digital Voltmeter Ammeter DC 100V 10A User Manual

Greluma ZL1200LUM

Greluma 0.28" Digital Voltmeter Ammeter DC 100V 10A User Manual

Model: ZL1200LUM

1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of your Greluma 0.28" Digital Voltmeter Ammeter. This device is designed to accurately measure DC voltage up to 100V and current up to 10A, displaying readings on a dual LED screen. Please read this manual thoroughly before use to ensure proper functionality and safety.

Voltmeter Amperemeter

- ☆DC 100V 10A
- ☆0.28" LED Display 3 Digit
- ☆Red and Blue Color



Figure 1: Greluma 0.28" Digital Voltmeter Ammeter. This image shows the front view of the digital voltmeter ammeter with its dual LED display, indicating voltage and current measurements.

2. PRODUCT FEATURES

- Dual 0.28" LED display for simultaneous voltage and current readings.
- Measures DC voltage from 0V to 100V.
- Measures DC current from 0A to 10A.
- Integrated voltage and current calibration potentiometers for enhanced accuracy.
- Compact design for easy integration into various applications.

3. SPECIFICATIONS

Operating Voltage	DC 4V ~ 30V
Measuring Voltage Range	DC 0V ~ 100V

Measuring Current Range	DC 0A ~ 10A
Voltage Resolution	0.1V
Current Resolution	0.01A
Operating Current	<20mA
Display Type	Three 0.28" LED digital tubes (Red and Blue)
Dimensions	48 x 29 x 21 mm (1.89" x 1.14" x 0.83")
Mounting Hole	45.5 x 26.5 mm
Refresh Rate	Approximately 300mS/time
Measurement Accuracy	1%
Operating Temperature	-10 to 65 °C
Operating Humidity	10 to 80% (non-condensing)

Product Dimension



Figure 2: Product Dimensions. This image illustrates the physical dimensions of the voltmeter ammeter, including length, width, and depth in millimeters and inches.

4. PACKAGE CONTENTS

- 1 x Greluma Digital Voltmeter Ammeter
- 2 x Connection Cables with Terminals



Figure 3: Package Contents. This image displays the digital voltmeter ammeter along with the two sets of connection cables that are included in the package.

Cables with Terminals



Figure 4: Connection Cables. A close-up view of the two connection cables, showing their color coding (red, black, yellow) and terminal connectors.

5. SETUP AND INSTALLATION

The Greluma Digital Voltmeter Ammeter requires careful wiring. Please follow the instructions and diagrams below to ensure correct and safe installation.

5.1 Wiring Connections

- **Thin Black Line:** Negative terminal for the power supply to the module.
- **Thin Red Line:** Positive terminal for the power supply to the module (DC 4V ~ 30V).
- **Thick Black Line (COM):** Common measurement ground. Connects to the negative side of the load.
- **Thick Red Line (PW+):** Positive measurement terminal for voltage input. Connects to the positive side of the load.
- **Thick Yellow Line (IN+):** Current input positive. Connects in series with the positive side of the load to measure current.

Plug and Play

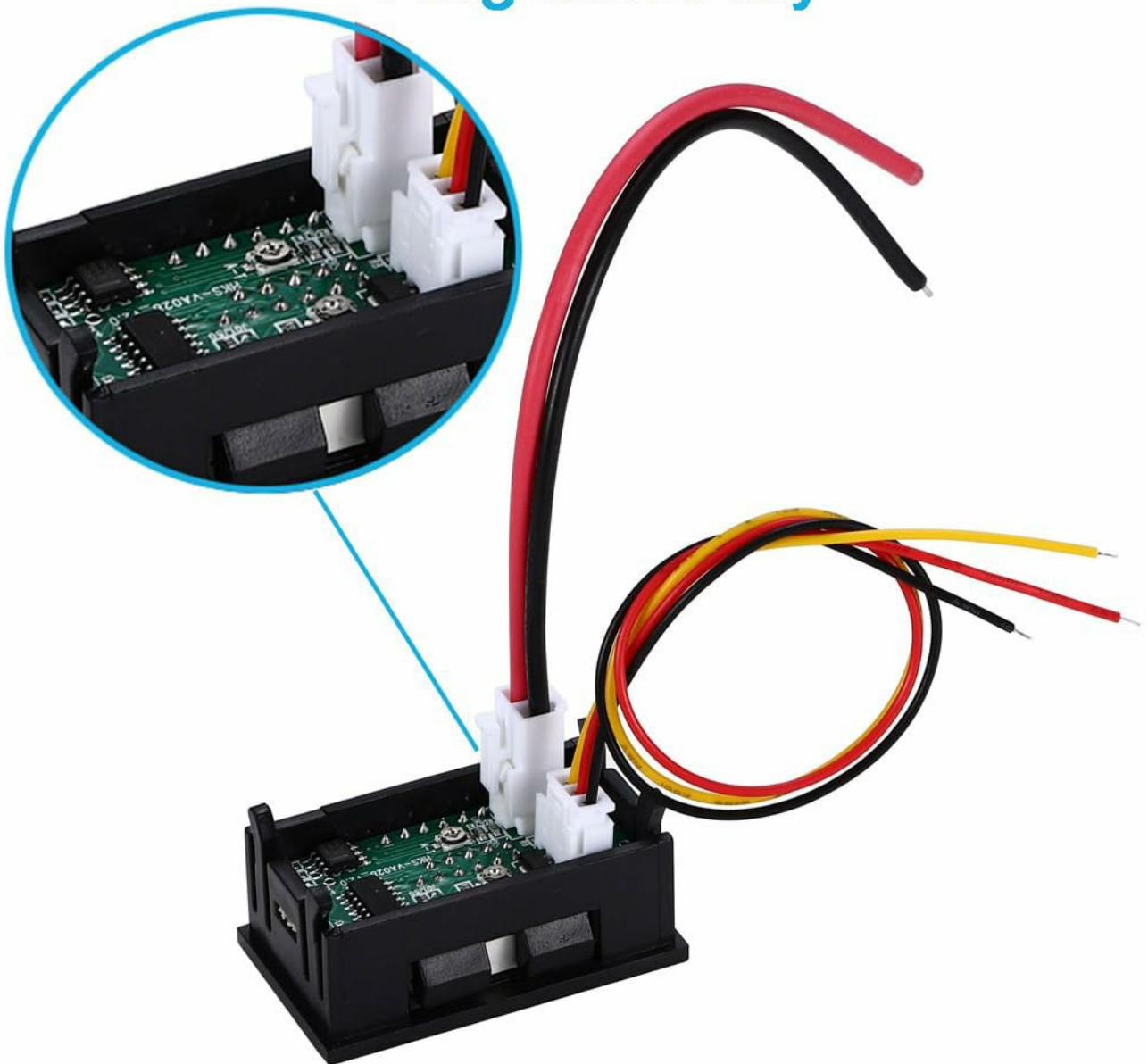


Figure 5: Cable Connection. This image demonstrates how to connect the provided cables to the corresponding ports on the back of the digital voltmeter ammeter.

5.2 Wiring Diagrams

Two common wiring configurations are provided:

5.2.1 Direct Power Supply (Shared Power)

In this configuration, the meter's power supply is taken directly from the circuit being measured. This is suitable when the measured voltage is within the meter's operating voltage range (DC 4V-30V).

Wiring Diagram 1

Direct power supply

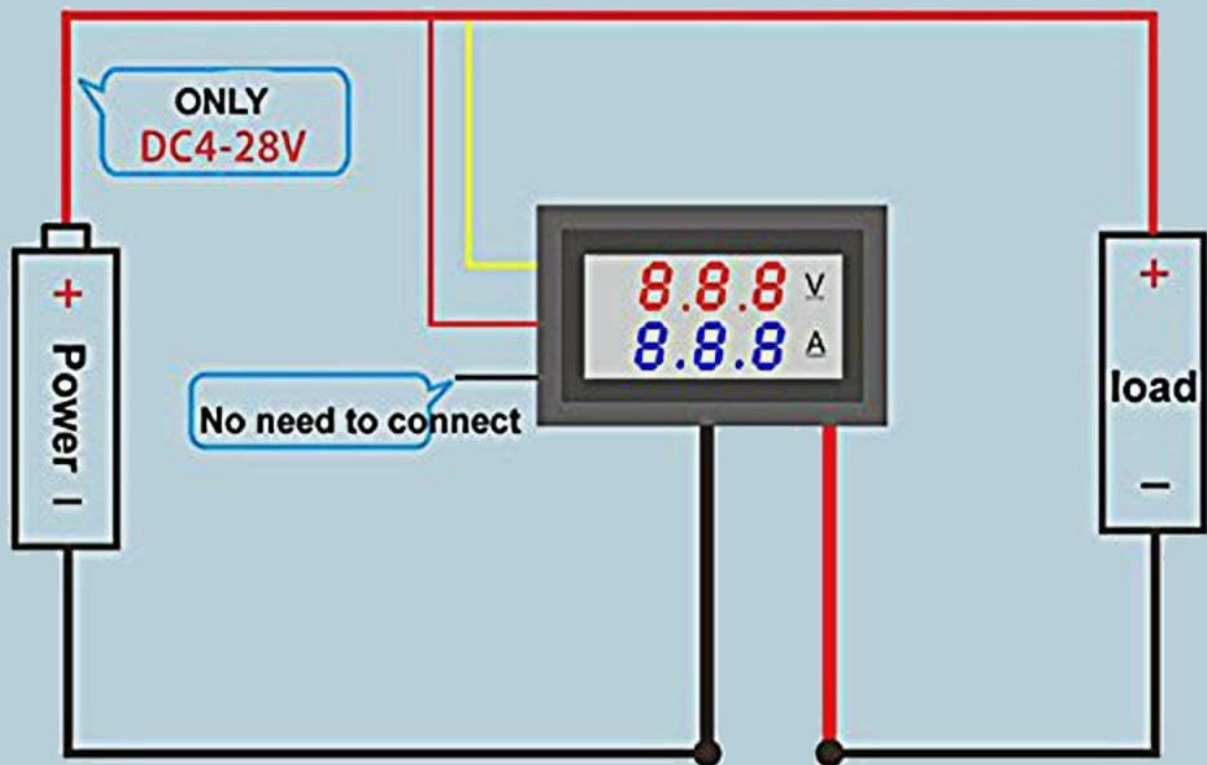


Figure 6: Direct Power Supply Wiring Diagram. This diagram shows how to connect the voltmeter ammeter when using a shared power source for both the meter and the load. The thin red and black wires connect to the power source, and the thick red, black, and yellow wires connect to the load.

5.2.2 Independent Power Supply

For measuring voltages outside the meter's operating range (e.g., 0-100V), an independent power supply (DC 4V-30V) is required for the meter itself. The measurement circuit remains separate.

Wiring Diagram 2

Independent power supply

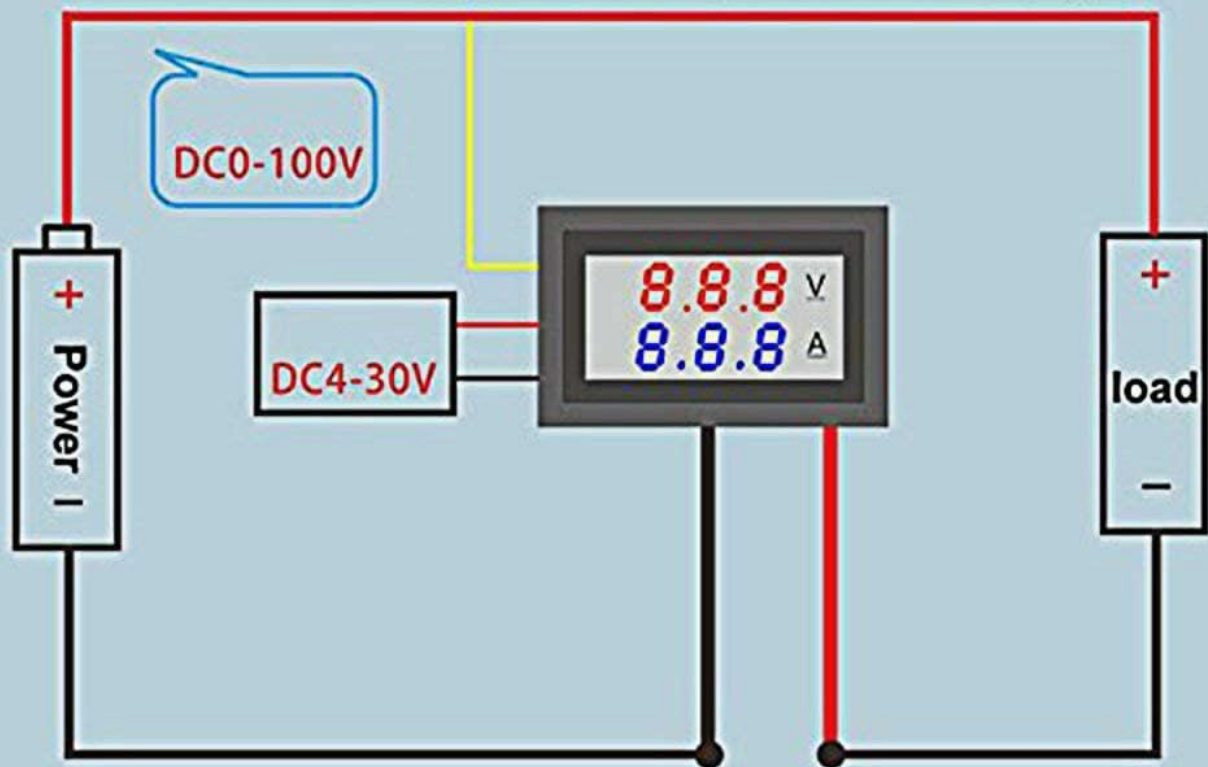


Figure 7: Independent Power Supply Wiring Diagram. This diagram illustrates connecting the voltmeter ammeter with a separate power source for the meter, allowing measurement of a wider voltage range for the load.

6. OPERATION

Once correctly wired and powered, the digital voltmeter ammeter will automatically display the measured voltage (red LED) and current (blue LED) on its 0.28" screens. No further user input is typically required for basic operation.

7. CALIBRATION

The unit includes built-in potentiometers for fine-tuning voltage and current readings, ensuring higher accuracy for your specific application.

- **Voltage Trimming Potentiometer (V-T):** Adjusts the voltage reading.
- **Current Trimming Potentiometer (A-T):** Adjusts the current reading.

To calibrate, apply a known accurate voltage or current source and use a small screwdriver to carefully adjust the respective potentiometer until the display matches the known value.

Component Function

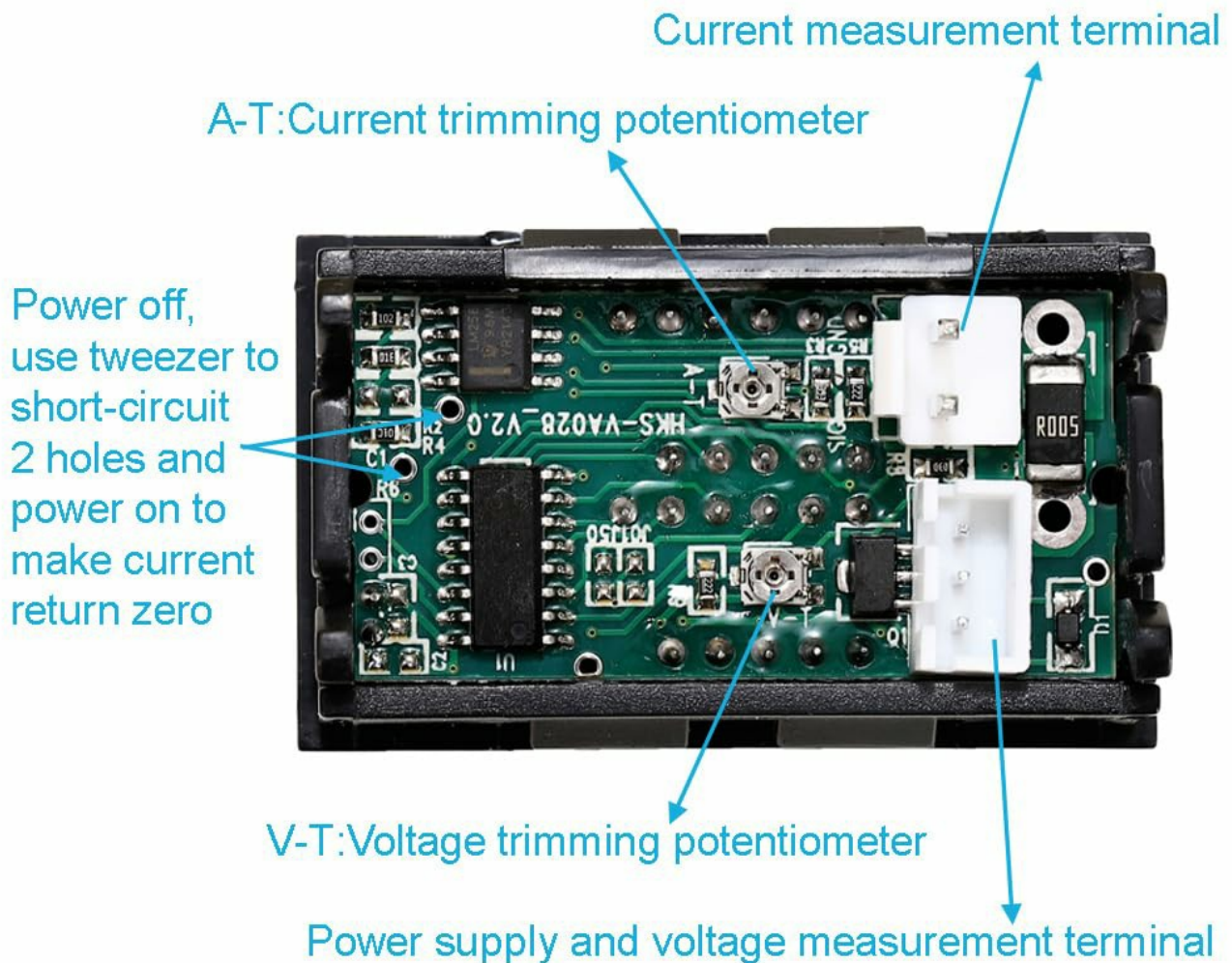


Figure 8: Component Functions. This image highlights the location of the voltage trimming potentiometer (V-T) and current trimming potentiometer (A-T) on the circuit board, along with other terminals.

8. IMPORTANT NOTICES

- The voltage between the thin red line and the thin black line (meter's power supply) must be between DC 4V and 30V. Exceeding this range may damage the device.
- The ammeter measures current by being connected in series with the negative pole of the test device.
- For current measurements up to 10A (including 10A), the device has a built-in shunt. No external shunt is required.
- If the thin black line is left unconnected, it is recommended to insulate the exposed part of the wire with electrical tape to prevent accidental short circuits.
- If using the device solely as a voltmeter (without current measurement), it is recommended to connect the thick yellow line (IN+) and the thick black line (COM) together to prevent the ammeter display from flashing.

9. TROUBLESHOOTING

- **No Display:** Check the power supply connections (thin red and black wires) to ensure they are within the DC 4V-30V range and correctly polarized.
- **Incorrect Readings:** Verify all wiring connections according to the diagrams. If readings are slightly off, perform calibration using the potentiometers as described in Section 7.
- **Ammeter Flashing:** If only using as a voltmeter, ensure the thick yellow and thick black lines are connected together as per Section 8.
- **No Current Reading:** Ensure the thick yellow line (IN+) is correctly wired in series with the load.

10. MAINTENANCE

The Greluma Digital Voltmeter Ammeter is a low-maintenance device. Keep it clean and dry. Avoid exposure to extreme temperatures, humidity, or corrosive environments. Do not attempt to open the casing beyond accessing the calibration potentiometers, as this may void any implied warranty and could damage the internal components.

11. WARRANTY AND SUPPORT

For warranty information or technical support, please refer to the retailer or manufacturer's official website. Keep your purchase receipt for any warranty claims.

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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

