

Voktta DC 100V 50A Digital Voltmeter Ammeter Instruction Manual

Model: DC 100V 50A Digital Voltmeter Ammeter | Brand: Voktta

Introduction

This manual provides detailed instructions for the installation, operation, and maintenance of your Voktta DC 100V 50A Digital Voltmeter Ammeter. This device is designed for precise measurement of DC voltage and current in various electrical applications. Please read this manual thoroughly before use to ensure safe and correct operation.

Specifications

Feature	Detail
Working Voltage (Meter)	DC 4 - 30V (Max 30V)
Working Current (Meter)	≤20mA
Voltage Measuring Range	DC 0 - 100V
Current Measuring Range	DC 0 - 50A
Voltage Resolution	0.1V
Current Resolution	0.01A
Measurement Accuracy	1% (± 1 digit)
Display Type	0.56" Digital Tube, Dual Color (Red for Voltage, Blue for Current)
Dimensions	48mm x 29mm x 26mm
Operating Temperature	-10°C to 65°C
Shunt Model	FL-2 (50A 75mV)

Feature	Detail
Certification	CE
DIY Supplies	Electrical
Power Supply	DC

Setup and Wiring

The Voltmeter Ammeter requires careful wiring. Ensure all connections are secure and correct before applying power. The maximum input voltage for the meter's power supply should not exceed 30V to prevent damage.

Components Overview



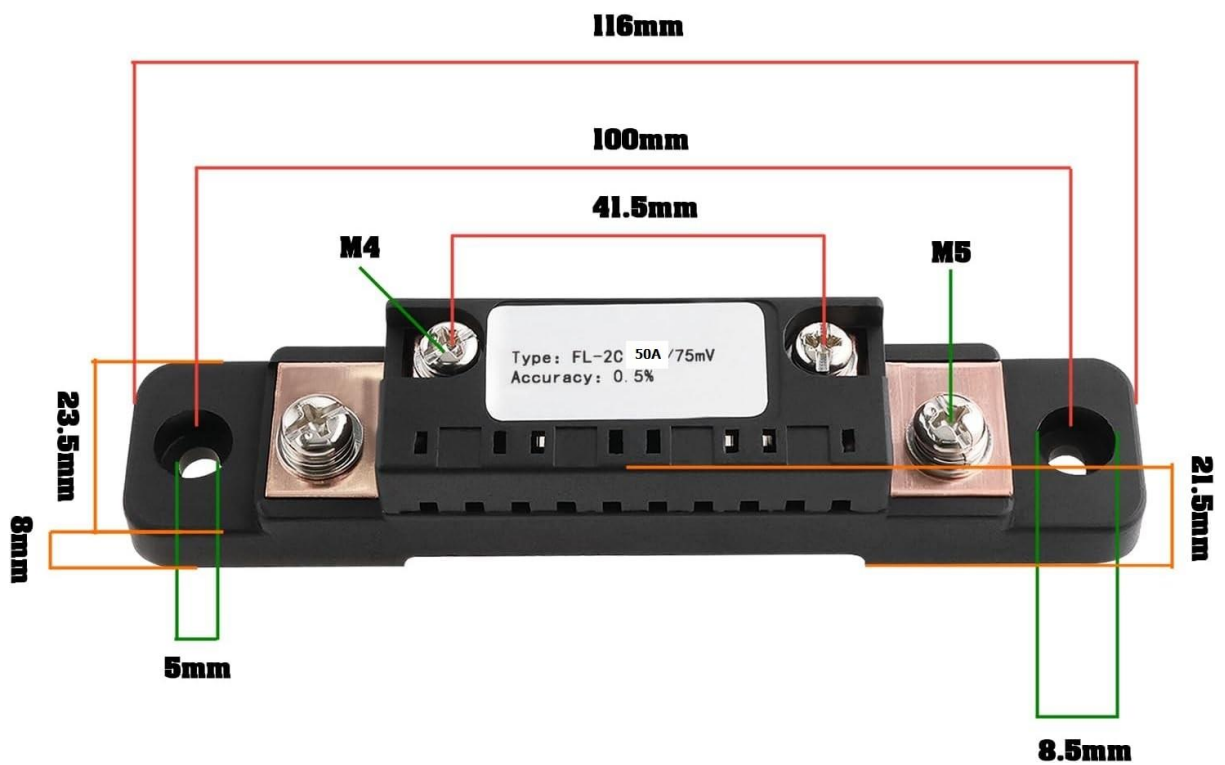


Figure 1: Overview of the Digital Voltmeter Ammeter and 50A 75mV Shunt



Figure 2: Rear view of the meter, highlighting the connection terminals.

Wiring Instructions

There are two common wiring methods depending on whether the meter uses a separate power supply or shares the power supply with the circuit being measured.

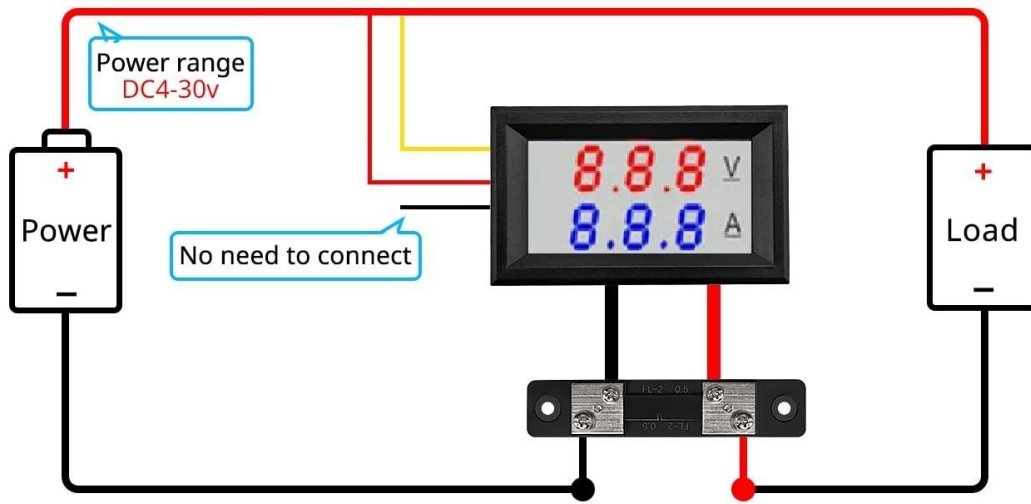
Method 1: Separate Power Supply for Meter

This method is recommended for circuits where the measurement voltage is outside the meter's operating voltage range (4-30V) or for isolating the meter's power from the main circuit.

1. Connect the thin red wire (VCC) to the positive terminal of a separate DC 4-30V power supply.

2. Connect the thin black wire (GND) to the negative terminal of the separate DC 4-30V power supply. This also serves as the common ground for the meter.
3. Connect the thick red wire (Voltage Input) to the positive point of the circuit you wish to measure the voltage of.
4. Connect the thick black wire (Current Input) to one end of the 50A 75mV shunt.
5. Connect the other end of the 50A 75mV shunt in series with the negative line of the load you wish to measure the current of.
6. Connect the thin yellow wire (Voltage Sense) to the positive side of the load (or the same point as the thick red wire).

50 A meter head direct power supply wiring diagram



50 A meter head independent direct power supply wiring diagram

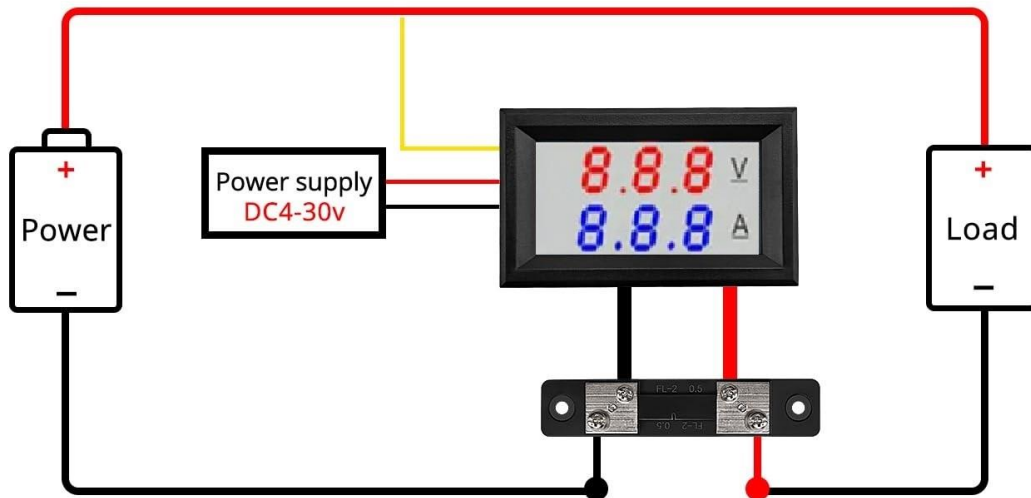


Figure 3: Wiring diagram using a separate power supply for the meter.

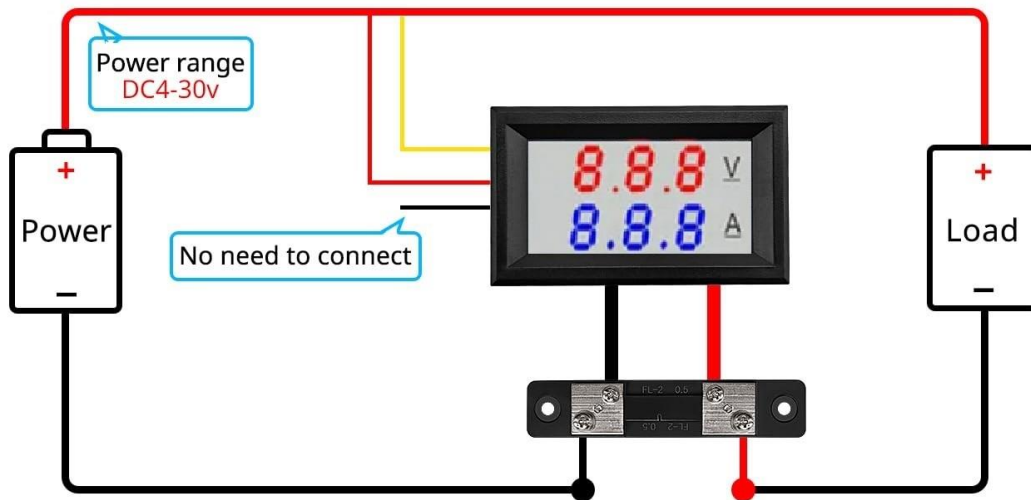
Method 2: Shared Power Supply with Measured Circuit

This method can be used when the voltage of the circuit being measured is within the meter's operating voltage range (4-30V).

1. Connect the thin red wire (VCC) and the thick red wire (Voltage Input) together to the positive terminal of the circuit you wish to measure.
2. Connect the thin black wire (GND) to the negative terminal of the circuit. This is the common ground.

3. Connect the thick black wire (Current Input) to one end of the 50A 75mV shunt.
4. Connect the other end of the 50A 75mV shunt in series with the negative line of the load you wish to measure the current of.
5. Connect the thin yellow wire (Voltage Sense) to the positive side of the load (or the same point as the thick red wire).

50 A meter head direct power supply wiring diagram



50 A meter head independent direct power supply wiring diagram

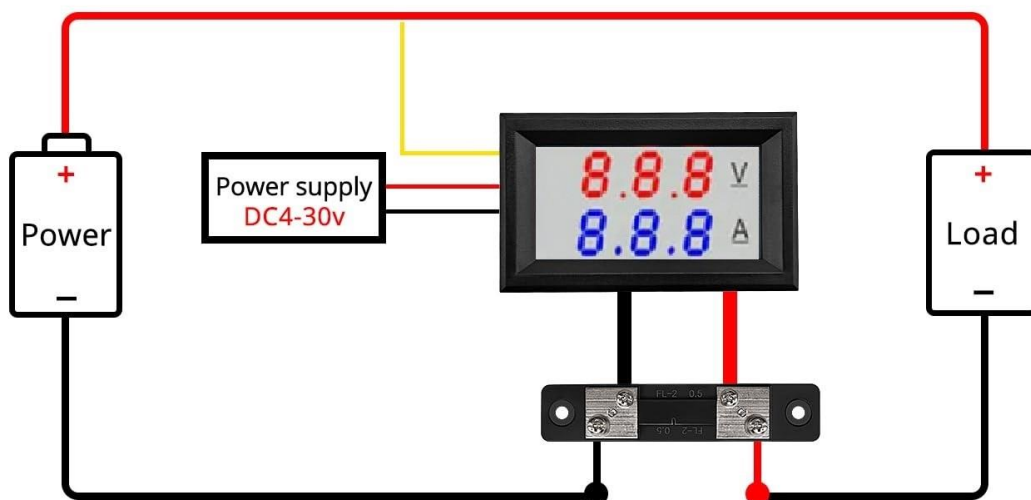


Figure 4: Wiring diagram using a shared power supply for the meter and measured circuit.

Important Safety Note: Always ensure correct polarity. Incorrect wiring can damage the meter or the circuit. If you are unsure, consult a qualified electrician.

Operating Instructions

Once correctly wired and powered, the digital display will illuminate.

- The upper display (red LED) shows the measured DC voltage in Volts (V).
- The lower display (blue LED) shows the measured DC current in Amperes (A).
- The meter automatically displays the voltage and current readings. No further configuration is typically required for basic operation.



Figure 5: Example of the dual digital display showing voltage and current.

Maintenance

- **Cleaning:** Use a soft, dry cloth to clean the display and casing. Do not use abrasive cleaners or solvents.
- **Storage:** Store the device in a dry environment, away from direct sunlight and extreme temperatures.

- **Inspection:** Periodically check wiring connections for looseness or corrosion.

Troubleshooting

Problem	Possible Cause	Solution
No display / Meter not powering on	No power to meter; incorrect power supply voltage; reversed polarity.	Check power connections (thin red/black wires). Ensure power supply is within 4-30V DC and polarity is correct.
Voltage reading is incorrect or zero	Incorrect voltage input wiring (thick red/yellow wires); poor connection.	Verify the thick red and thin yellow wires are correctly connected to the positive side of the measured circuit. Check for loose connections.
Current reading is incorrect or zero	Shunt not connected; incorrect shunt wiring; shunt connected in parallel instead of series; reversed current flow.	Ensure the 50A 75mV shunt is correctly installed in series with the load's negative line. Verify the thick black wire is connected to the shunt. Check shunt connections for proper polarity.
Meter burned out	Input voltage to meter's power supply exceeded 30V; incorrect wiring.	This indicates irreversible damage. Replace the meter and review wiring carefully before connecting a new one.

User Tips

- For optimal accuracy, ensure the shunt is placed as close as possible to the load being measured.
- When measuring high currents, ensure all connections to the shunt are robust and capable of handling the expected current to prevent overheating.
- Always double-check your wiring against the provided diagrams before applying power to avoid damaging the meter or your circuit.

Warranty and Support

For technical support, warranty claims, or any questions regarding your Voktta Digital Voltmeter Ammeter, please contact the seller or manufacturer directly. Keep your purchase receipt as proof of purchase.

Component Function

