KETOTEK KT-D138

KETOTEK KT-D138 DC 6.5-100V 100A Voltmeter Ammeter Power Energy Meter User Manual

Model: KT-D138 with 100A/75mV Shunt

1. Introduction

This manual provides detailed instructions for the installation, operation, and maintenance of your KETOTEK KT-D138 DC Digital Voltmeter Ammeter Power Energy Meter. This device is designed to accurately measure DC voltage, current, active power, and energy consumption in various applications, including battery systems, solar power setups, and electric bicycle generators. Please read this manual thoroughly before use to ensure correct operation and prevent damage.

The KT-D138 is a 4-in-1 multimeter featuring a large LCD with backlight, voltage alarm function, energy reset, and data storage upon power-off. It is intended for indoor use only.

2. Product Overview

2.1 Key Features

- **4-in-1 Measurement:** Simultaneously displays DC voltage, current, active power, and energy.
- **Wide Measurement Range:** Voltage DC 6.5-100V, Current 0-100A, Power 0-10kW, Energy 0-9999kWh.
- **Clear Display:** Large LCD with blue backlight for easy readability.
- **Voltage Alarm:** Configurable voltage alarm threshold with display flashing.
- **Energy Reset:** One-button reset for accumulated energy data.
- **Data Storage:** Automatically saves measurement data when power is off.

2.2 Package Contents

- 1 x KETOTEK KT-D138 DC Multimeter
- 1 x 100A/75mV Current Shunt
- 1 x User Manual (this document)

Image 1: KETOTEK KT-D138 DC Voltmeter Ammeter and included 100A/75mV shunt.

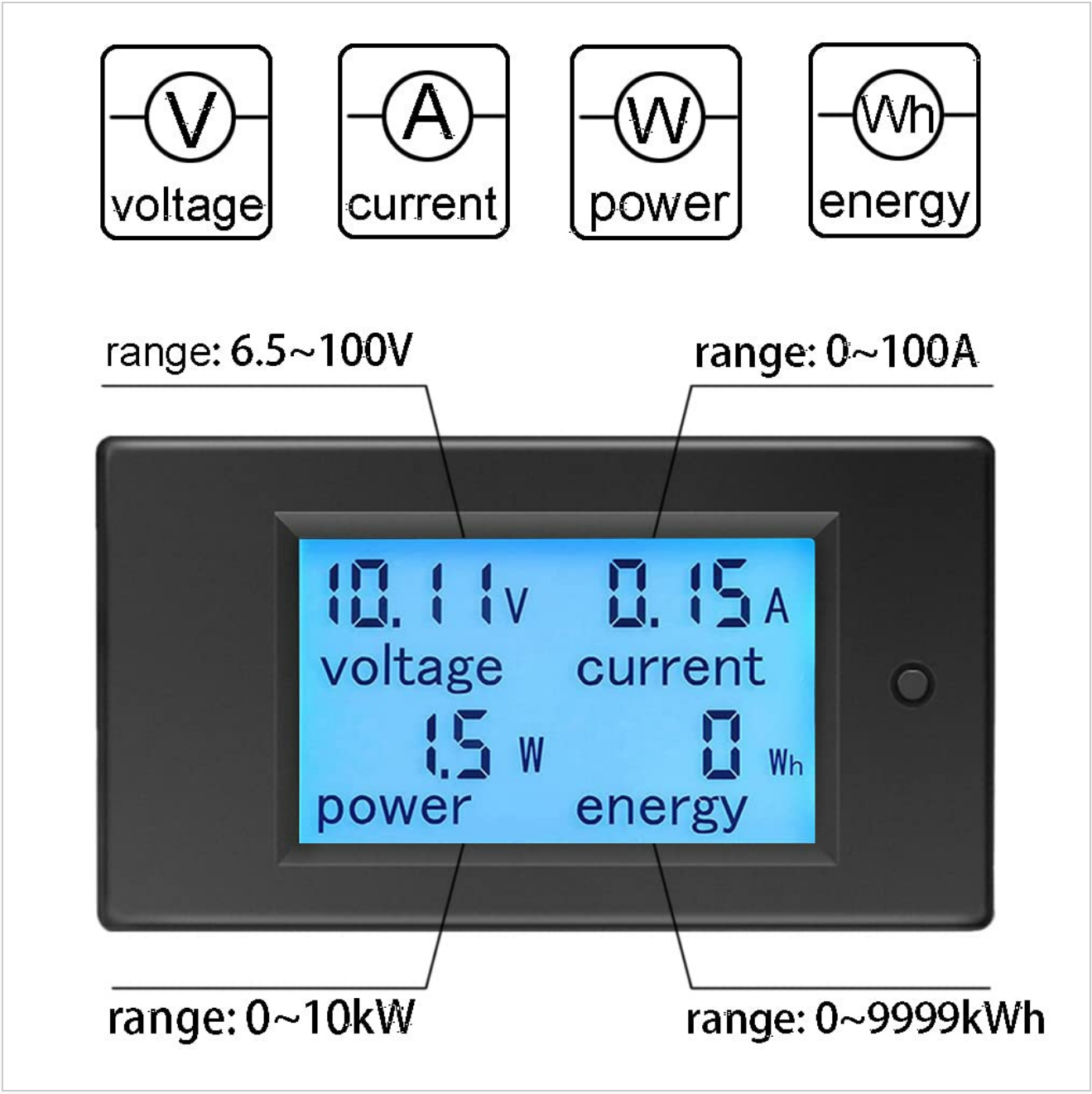


Image 2: The KT-D138 display indicating measurement ranges for voltage (6.5-100V), current (0-100A), power (0-10kW), and energy (0-9999kWh).

3. Specifications

Parameter	Value
Operating Voltage	DC 6.5 - 100V
Current Measurement Range	0 - 100A
Active Power Measurement Range	0 - 10kW
Energy Measurement Range	0 - 9999kWh
Measurement Accuracy	1%
Display Type	LCD with Blue Backlight
Dimensions (L x W x H)	8.96 x 4.68 x 2.44 cm (3.53 x 1.84 x 0.96 inches)

Weight	70 grams (2.47 oz)
Operating Environment	Indoor use only
Compliance	CE

Image 3: Dimensional drawing of the KETOTEK KT-D138 meter, showing measurements in millimeters.

4. Safety Information

- **Do Not Exceed Rated Parameters:** Ensure that the voltage and current of the circuit being measured do not exceed the specified ranges (DC 6.5-100V, 0-100A). Exceeding these limits can cause permanent damage to the device and potential safety hazards.
- **Correct Wiring:** Always follow the provided wiring diagrams precisely. Incorrect wiring is a common cause of product malfunction or damage. If you are unsure about any connection, consult a qualified electrician or contact KETOTEK support.
- **Indoor Use Only:** This device is designed for indoor environments. Do not expose it to moisture, direct sunlight, extreme temperatures, or corrosive substances.

- **Professional Installation Recommended:** For complex electrical systems, professional installation is recommended to ensure safety and proper functionality.
- **Avoid Physical Damage:** Handle the meter with care. Avoid dropping or subjecting it to strong impacts.

5. Setup and Installation

5.1 Wiring Diagram for Current Measurement with Shunt

The KT-D138 requires an external 100A/75mV shunt for current measurement. The shunt must be connected in series with the load. The meter's current sensing wires connect to the small terminals of the shunt, while the main power circuit connects to the large terminals.

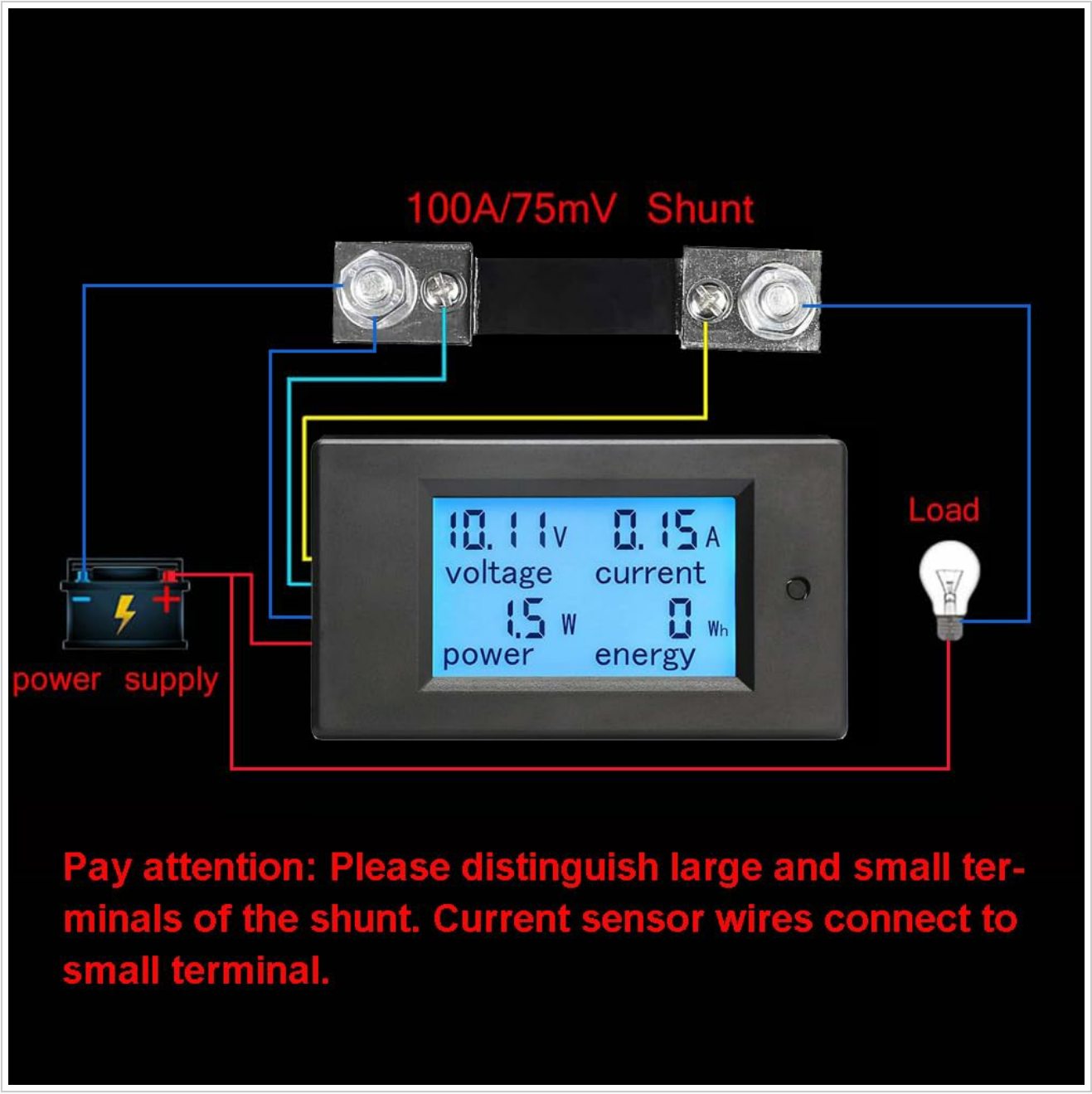


Image 4: Standard wiring diagram for the KT-D138 meter, showing connections to a power supply, 100A/75mV shunt, and a load. Note the distinction between large and small terminals on the shunt.

Important: Distinguish between the large and small terminals of the shunt. The current sensor wires from the meter connect to the small terminals. The main power supply and load connect to the large terminals.

5.2 Solar System Wiring Instructions

The KT-D138 can be integrated into a solar power system to monitor various aspects. Below are examples of how to connect the instrument at different positions according to your specific monitoring needs.

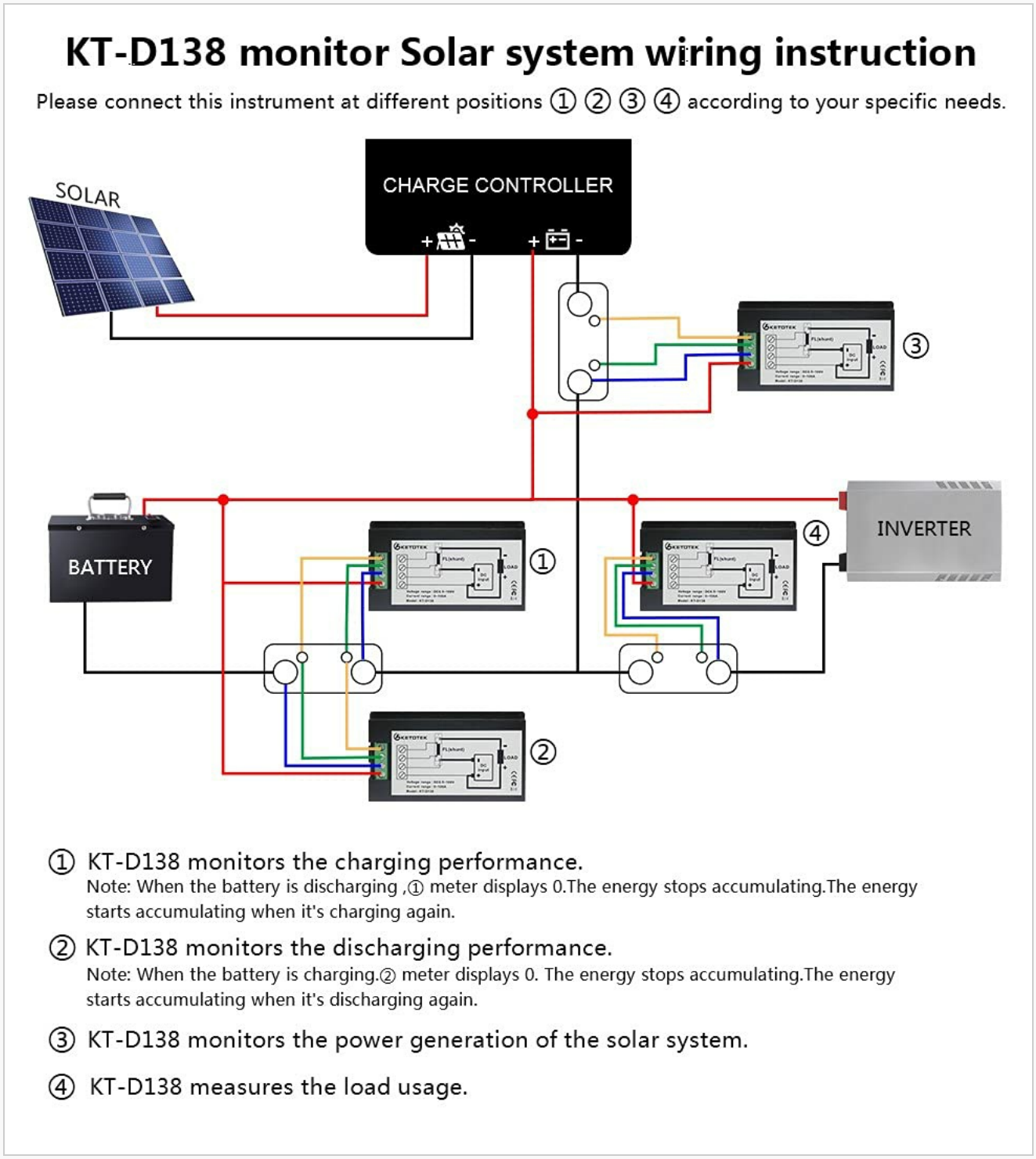


Image 5: Comprehensive solar system wiring diagram illustrating four potential connection points for the KT-D138 meter to monitor different aspects of the system.

1. **Position 1: Monitoring Charging Performance.** When the battery is discharging, the meter displays 0. Energy accumulation stops. Energy starts accumulating when the battery is charging again.
2. **Position 2: Monitoring Discharging Performance.** When the battery is charging, the meter displays 0. Energy accumulation stops. Energy starts accumulating when the battery is discharging.
3. **Position 3: Monitoring Solar System Power Generation.** Connect the meter to measure the total power generated by the solar panels before the charge controller.
4. **Position 4: Measuring Load Usage.** Connect the meter to measure the power and energy consumed by an inverter or other loads connected to the battery.

6. Operating Instructions

The KT-D138 features a single button on the right side of the display for various functions.

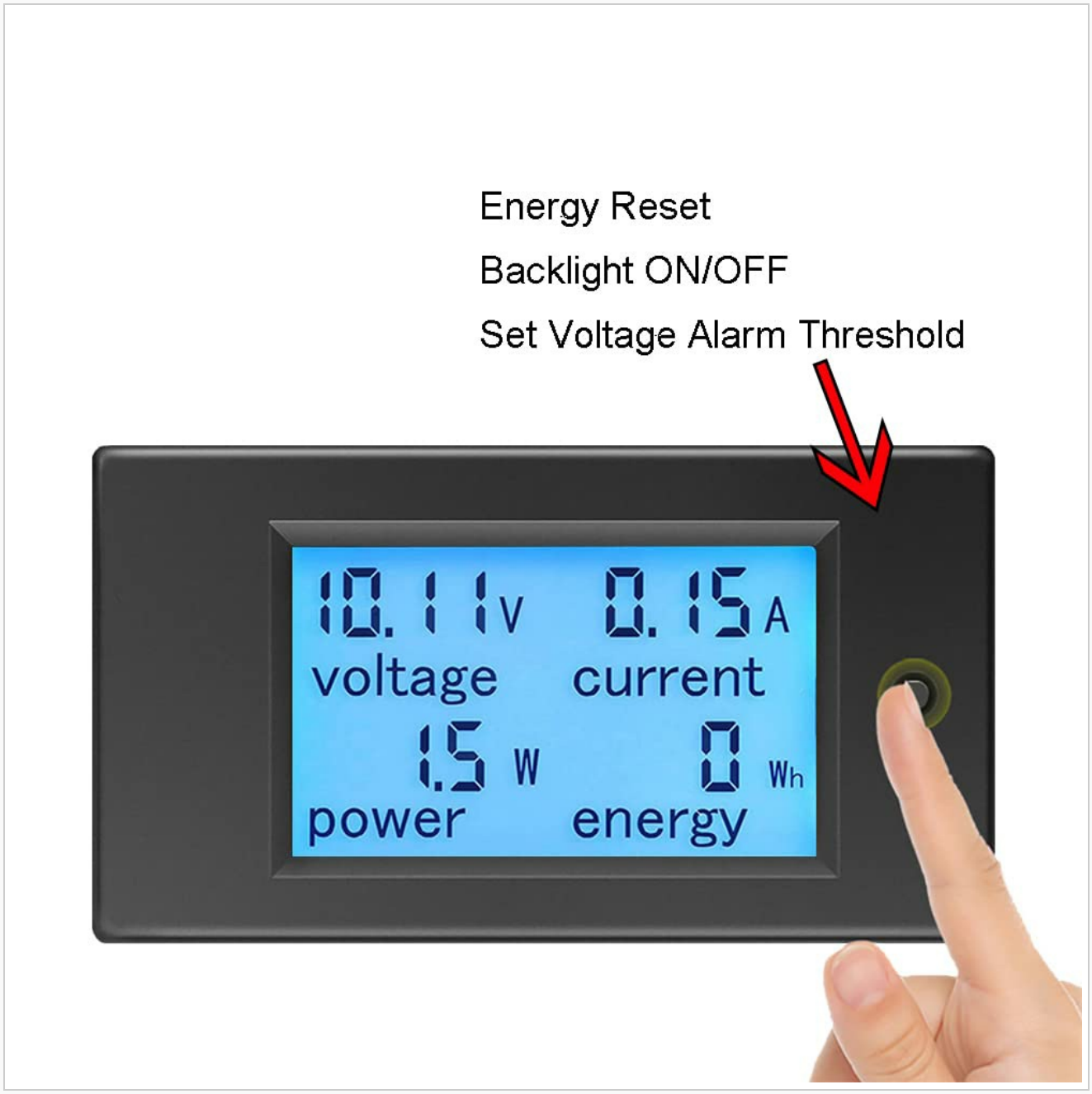


Image 6: The KT-D138 meter highlighting the multi-function button for energy reset, backlight control, and voltage alarm settings.

- **Energy Reset:** Press and hold the button for 5 seconds until the energy value (Wh) flashes. Release the button, then press it again briefly to reset the energy accumulation to zero.
- **Backlight ON/OFF:** A short press of the button will toggle the backlight on or off.
- **Set Voltage Alarm Threshold:** To set the voltage alarm, press and hold the button until the voltage value (V) flashes. Release the button. Each short press will increase the alarm threshold. Once the desired threshold is set, wait for 5 seconds without pressing any button, and the setting will be saved automatically. When the measured voltage falls below this threshold, the display will flash to indicate a low voltage alarm.

7. Troubleshooting

Problem	Possible Cause	Solution

No display/Meter not powering on	Incorrect wiring; Input voltage outside range; Loose connections.	Verify all wiring connections against the diagram. Ensure input voltage is within DC 6.5-100V. Check for secure connections.
Current reading is 0 or incorrect	Shunt not connected correctly; Current sensing wires reversed or loose; No load.	Ensure the shunt is correctly installed in series with the load. Verify current sensing wires are connected to the small terminals of the shunt and are not reversed. Confirm a load is drawing current.
Voltage alarm flashing unexpectedly	Voltage below set threshold; Threshold set too high.	Check the actual voltage of the circuit. Adjust the voltage alarm threshold to an appropriate level (refer to Operating Instructions).
Energy (Wh) reading is incorrect or not accumulating	Incorrect wiring for energy accumulation; Meter reset.	Review wiring, especially for solar applications (refer to Solar System Wiring Instructions). Ensure the energy value was not accidentally reset.
Backlight not working	Backlight turned off; Internal fault.	Press the button briefly to toggle the backlight. If it still doesn't work, contact support.

8. Maintenance

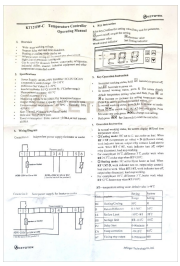
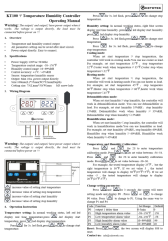
- **Cleaning:** Use a soft, dry cloth to clean the meter's display and casing. Do not use abrasive cleaners or solvents.
- **Storage:** When not in use for extended periods, store the meter in a cool, dry place away from direct sunlight and extreme temperatures.
- **Inspection:** Periodically inspect the wiring and connections for any signs of wear, corrosion, or damage. Ensure all connections remain secure.

9. Warranty and Support

KETOTEK products are designed for reliability and performance. For warranty information or technical support, please refer to the contact details provided with your purchase or visit the official KETOTEK website. Please have your model number (KT-D138) and purchase details ready when contacting support.

Related Documents - KT-D138

	Ketotek D52-2047HD DIN-Rail Multi-Function Meter User Guide User guide for the Ketotek D52-2047HD DIN-Rail Multi-Function Meter, detailing its technical specifications, application methods, and attention points for measuring AC voltage, current, active power, frequency, and electric energy.

	Ketotek KT-3 Portable pH Meter User Manual and Specifications Comprehensive guide to the Ketotek KT-3 Portable pH Meter, detailing its features, specifications, step-by-step usage instructions, calibration procedures, maintenance, and warranty information for accurate pH measurement.
	KETOTEK KTEM02/KTEM02BL Electricity Usage Monitor - User Manual & Features Comprehensive instruction manual for the KETOTEK KTEM02 and KTEM02BL electricity usage monitors. Learn about features, settings, safety, and specifications.
	KETOTEK KT1210W-C Temperature Controller Operating Manual Operating manual for the KETOTEK KT1210W-C Temperature Controller, detailing its specifications, wiring diagrams, and operational instructions for various applications like domestic freezers, water tanks, and refrigerators.
	KETOTEK KT100 Fahrenheit Temperature Humidity Controller Operating Manual Comprehensive operating manual for the KETOTEK KT100 Fahrenheit Temperature Humidity Controller, detailing specifications, wiring, operation instructions, and calibration procedures for temperature and humidity control.
	KETOTEK KTTS02 Digital Timer Instruction Manual Comprehensive guide to the KETOTEK KTTS02 Digital Timer, covering setup, programming, modes, and features for energy saving and efficient control. Includes safety information, specifications, and operational instructions.