diymore Standardmodell (1PCS without temperature sensor)

diymore Battery Capacity Voltage Meter Instruction Manual

Model: Standardmodell (1PCS without temperature sensor)

1. PRODUCT OVERVIEW

The diymore Battery Capacity Voltage Meter is a versatile instrument designed to monitor battery capacity, voltage, and temperature. It features a clear LCD display and is suitable for various battery types, including lead-acid and lithium batteries, ranging from 12V to 84V. This meter is equipped with a protective cover for dust and water resistance and offers reverse input connection protection.

Key Features:

- **Multi-functional Display:** Shows battery capacity percentage, real-time voltage, and temperature (switchable between °C and °F).
- **Wide Voltage Range:** Compatible with 10V to 100V systems.
- **Programmable Settings:** Allows setting battery type, delayed shutdown (10-120 seconds), battery percentage limits, undervoltage alarm, and overtemperature alarm.
- **Built-in Temperature Sensor:** Measures temperature from -19°C to 80°C (-2.2°F to 179°F).
- **Durable Design:** Features a protective cover for dust and water resistance.

Figure 1.1: Front view of the diymore Battery Capacity Voltage Meter, displaying 100% capacity, 13.9V, and 28°C.

2. SAFETY INFORMATION

WARNING: Contains electronic parts. Do not disassemble or modify the product. Keep out of reach of children.

- Always ensure correct polarity when connecting the meter to the battery. Reverse connection protection is built-in, but incorrect wiring can still cause issues.
- Do not expose the device to extreme temperatures or direct sunlight for prolonged periods.
- Avoid contact with water or other liquids, despite its dust and waterproof surface.
- If the product is damaged, discontinue use immediately.

Figure 2.1: Warning label indicating not to disassemble or modify the product.

3. Setup and Installation

The diymore Battery Capacity Voltage Meter is designed for simple installation, typically flush-mounted. Follow these steps for proper setup:

1. **Mounting:** The meter is designed for embedded installation. Ensure the installation size (58.5mm x 28.5mm) is appropriate for your desired location. It features a buckle design for secure, screw-less mounting.

2. **Wiring:** Connect the meter directly to your battery. The red wire is for the positive terminal (B+), and the black wire is for the negative terminal (B-). The product is directly wired according to the type of battery selected at the time of purchase.

3. **External NTC Temperature Sensor (if applicable):** If your model includes an external NTC temperature sensor, please connect it to the circuit board. Do not squeeze the sensor during installation.

Figure 3.1: Wiring diagram showing positive (red) and negative (black) connections to a battery.

Figure 3.2: Dimensions of the meter, showing a length of 61.36mm and height of 33.36mm.

4. Operation

Once installed and powered, the meter will display the battery's percentage, voltage, and temperature. The display features symbols representing an analog battery.

Basic Functions:

- **Power On/Off:** Press the button on the front to turn the instrument on or off. In close mode, the instrument can wake up by pressing any button. The product can go to sleep automatically after your selected delay time if this function is turned on.

- **Display Information:** The display shows the percentage of remaining battery power, the voltage value, and the temperature. The battery symbols on the display interface, from right to left, are 7 display boxes representing the power pool from low to high.

- **Temperature Unit Switch:** Fahrenheit and Celsius can be switched. The basic version shows the product temperature, while the upgraded version shows the environment temperature.

Advanced Settings (via SET button):

The SET button is located on the back of the device. Accessing it may require removing the meter from its mounting. This button is used to set various functions.

- **Change Battery Type:** Select between Lithium Battery (L), Lead Acid Battery (P), or LiFeCoPO4 Battery (F).
- **Setting Delay OFF/ON & Delay Time:** Adjust the automatic shutdown delay time (10, 20, 30, 60, 120 seconds).
- **Customize Voltage of Percentage 0 to 100:** Adjust the upper and lower limits of the battery percentage display. If the battery specification is special, you can enter set mode 3 and reset these limits.
- **Recalibration:** Perform voltage calibration for accurate readings.
- **Undervoltage Alarm (Selective Assembly):** If the Volt-Alarm function is turned on, the buzzer will ring at 1-second intervals with a flashing voltage display when the battery voltage is lower than the set voltage.
- **Overtemperature Alarm (Selective Assembly):** If the Temperature-Alarm function is turned on, the buzzer will ring at 1-second intervals with a flashing volt display when the battery temperature is higher than the set temperature.

Figure 4.1: Illustration of the four main programmable functions: change battery type, setting delay, customizing percentage voltage, and recalibration.

Figure 4.2: Close-up of the display showing buzzer alarm indication and the option to switch between Fahrenheit and Celsius temperature units.

5. MAINTENANCE

To ensure the longevity and accurate performance of your diymore Battery Capacity Voltage Meter, follow these maintenance guidelines:

- **Cleaning:** Use a soft, dry cloth to clean the 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 check the wiring connections to ensure they are secure and free from corrosion.
- **Avoid Impact:** Protect the device from physical shocks or drops, which can damage internal components.

6. TROUBLESHOOTING

If you encounter issues with your diymore Battery Capacity Voltage Meter, refer to the following common problems and solutions:

- **No Display/Power:**

- Check if the power wires (red and black) are correctly connected to the battery terminals with proper polarity.
- Ensure the battery voltage is within the working voltage range (10-100V).
- Verify that the battery itself has sufficient charge.

- **Inaccurate Readings:**

  - Perform a voltage calibration using the SET button as described in the Operation section.
  - Ensure the correct battery type (Lithium, Lead Acid, LiFeCoPO4) is selected in the settings.
  - Check for loose connections that might affect voltage sensing.

- **Buzzer Alarm Constantly On:**

  - Check if the battery voltage is below the set undervoltage alarm threshold or if the temperature is above the overtemperature alarm threshold.
  - Adjust the alarm thresholds or disable the alarm functions if not needed (refer to Operation section).

- **Display Flickering:**

  - Ensure stable power supply from the battery. Significant current fluctuations during charging or discharging can cause temporary display variations.
  - Check for any electromagnetic interference near the device.

7. SPECIFICATIONS

Parameter	Value	Unit
Working Voltage	10-100	V
Working Current Consumption	8-10	mA
Standby Power Consumption	15-20	uA
Voltage Accuracy	±0.1%~±0.5%	%
Temperature Accuracy	±0.5°C~±1°C	
Temperature Range	-19~80	°C
Temperature Range	-0~179	°F
Buzzer Volume	60-80	dB
Working Temperature	-10~65	°C
Product Size	61.5*33.5*13.5	mm
Installation Size	58.5*28.5	mm
Display Size	33*16.5	mm

Parameter	Value	Unit
Weight	30	g
Delay Shutdown Time	10, 20, 30, 60, 120	S

Figure 7.1: Detailed specifications and important features of the diymore Battery Capacity Voltage Meter.

8. WARRANTY AND SUPPORT

diymore products are manufactured with quality and precision. For warranty information and technical support, please refer to the following:

- **Warranty:** This product comes with a standard manufacturer's warranty. Please retain your proof of purchase for any warranty claims.
- **Customer Service:** For technical assistance, troubleshooting, or product inquiries, please visit the official diymore store on Amazon or contact their customer support directly.
- **Online Resources:** Additional information, FAQs, and updated instructions may be available on the diymore brand store page.

Thank you for choosing diymore products.