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› EVTSCAN Digital Clamp Multimeter 6000 Count User Manual

EVTSCAN 6000 Count Digital Clamp Multimeter

EVTSCAN Digital Clamp Multimeter (6000 Count) User Manual

1. INTRODUCTION

This manual provides comprehensive instructions for the safe and effective operation of your EVTSCAN Digital Clamp Multimeter. This device is designed for accurate measurement of AC/DC voltage, AC/DC current, resistance, continuity, diode, capacitance, and temperature. It features a 6000-count display, True RMS measurement, and an automatic range function.

Please read this manual thoroughly before using the multimeter and retain it for future reference.



Image 1.1: Front view of the EVTSCAN Digital Clamp Multimeter with red and black test leads connected.

2. SAFETY INFORMATION

Always observe basic safety precautions when using this or any electrical testing device to reduce the risk of fire, electric shock, or personal injury.

- Do not exceed the maximum input values specified for each measurement range.
- Ensure the test leads are properly connected and in good condition before use.
- Do not use the multimeter if it appears damaged or if the case is open.
- Exercise extreme caution when working with voltages above 30V AC RMS, 42V peak, or 60V DC. These voltages pose a shock hazard.
- Always disconnect power to the circuit under test before making resistance, continuity, or diode measurements.
- Replace batteries immediately when the low battery indicator appears to ensure accurate readings.
- This device is rated CAT II 600V and CAT III 300V. Adhere to these safety categories.

3. PRODUCT COMPONENTS AND OVERVIEW

Familiarize yourself with the various parts of your digital clamp multimeter:

Product Introduction

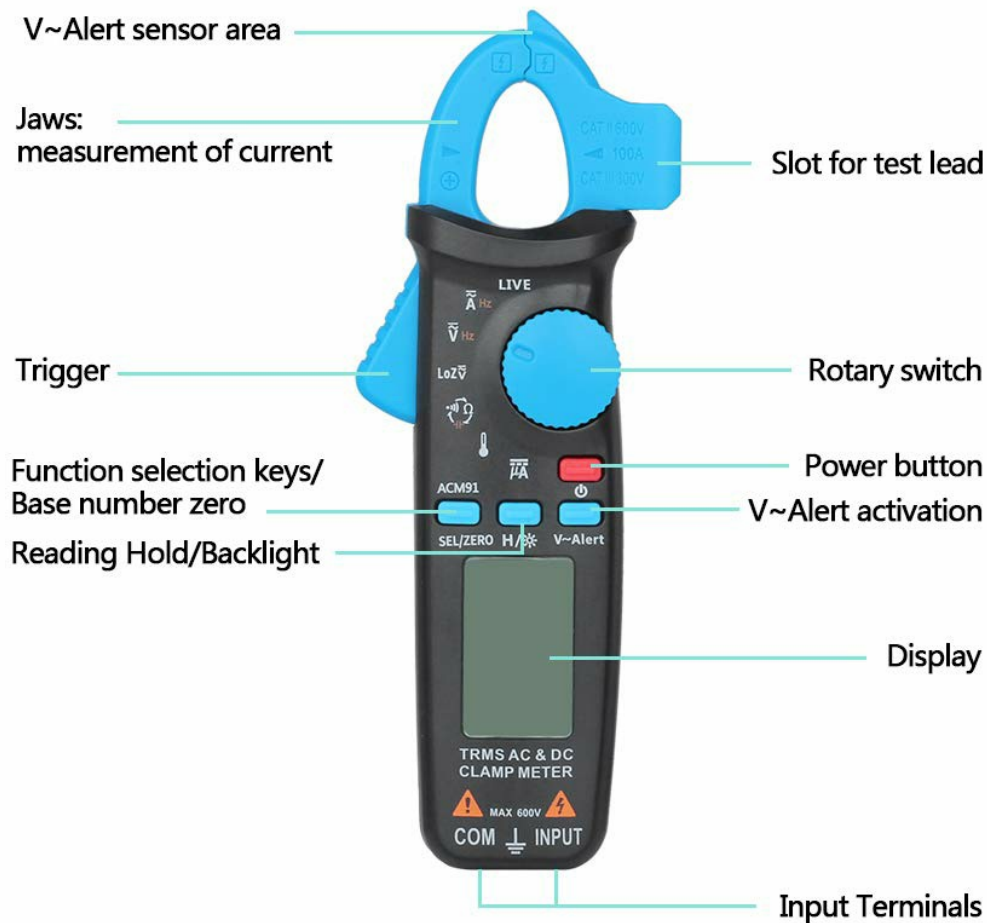


Image 3.1: Labeled diagram showing the components of the multimeter.

- **V~Alert Sensor Area:** Detects non-contact voltage.
- **Jaws:** Used for non-contact AC/DC current measurement.
- **Trigger:** Opens the jaws for clamping around a conductor.
- **Rotary Switch:** Selects measurement functions.
- **Power Button:** Turns the device on or off.
- **Function Selection Keys (SEL/ZERO, H/*, V~Alert):** Selects sub-functions, holds data, activates backlight, or activates V~Alert.
- **Display:** Shows measurement readings, units, and indicators.
- **Input Terminals (COM, INPUT):** For connecting test leads for voltage, resistance, continuity, diode, capacitance, and temperature measurements.
- **Slot for Test Lead:** Securely holds the test lead when not in use.



Image 3.2: Rear view of the multimeter, highlighting the integrated belt clip for convenient carrying.

4. SETUP

4.1 Battery Installation

The multimeter requires two 1.5V AAA batteries (not included). To install or replace batteries:

1. Ensure the multimeter is powered off.
2. Locate the battery compartment cover on the back of the device.
3. Use a screwdriver to open the battery compartment.
4. Insert two 1.5V AAA batteries, observing the correct polarity (+ and -).
5. Replace the battery compartment cover and secure it with the screw.

4.2 Connecting Test Leads

For most measurements (voltage, resistance, continuity, diode, capacitance, temperature), test leads are required.

- Insert the black test lead into the "COM" (Common) input terminal.
- Insert the red test lead into the "INPUT" terminal.
- Ensure connections are firm before proceeding with measurements.

5. OPERATING INSTRUCTIONS

5.1 Power On/Off and Auto Power Off

- Press the **Power Button** to turn the multimeter on.
- Press and hold the **Power Button** to turn the multimeter off.
- The device features an automatic power-off function after approximately 20 minutes of inactivity to conserve battery life. To disable this feature, press and hold the **SEL/ZERO** button while powering on the device.

5.2 Function Selection

Rotate the **Rotary Switch** to select the desired measurement function. Some positions have multiple functions, which can be cycled using the **SEL/ZERO** button.



Image 5.1: Overview of the multimeter's display and available measurement functions, including AC/DC current, voltage, resistance, frequency, capacitance, and temperature.

5.3 AC/DC Voltage Measurement

To measure AC or DC voltage:

1. Turn the **Rotary Switch** to the **V~Hz** position.

2. Insert the test leads into the COM and INPUT terminals.
3. Press the **SEL/ZERO** button to select AC (V~) or DC (V=) voltage mode. The chosen mode will be indicated on the display.
4. Carefully touch the probes to the correct test points of the circuit.
5. Read the measured voltage on the display.

1. Measure AC and DC Voltage

1.1: Turn the rotary switch to $\bar{V}_{Hz}$.

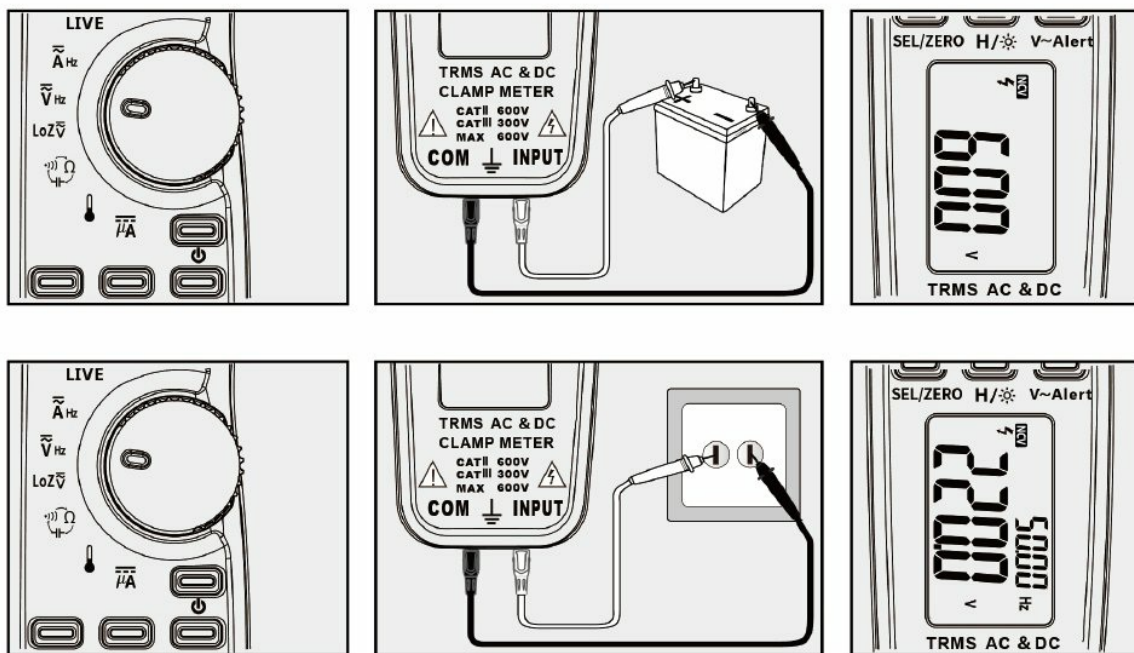
1.2: Insert the test leads into the Product.

1.3: Push SEL/ZERO to choose ac or dc voltage.

The chosen voltage mode shows on the display.

1.4: Measure the voltage by touching the probes to the correct test points of the circuit.

1.5: Read the measured voltage on the display.



At small voltage range, unsteady readings will appear before the test leads contact the circuit. This is normal because the meter is highly sensitive. When the test leads contact the circuit, the true reading will be shown.

Image 5.2: Visual guide demonstrating the process of measuring DC voltage across a battery and AC voltage from a wall outlet using the multimeter.

Note: At small voltage ranges, unsteady readings may appear before the test leads contact the circuit. This is normal due to the meter's high sensitivity. The true reading will be shown once contact is made.

5.4 AC/DC Current Measurement (Clamp Function)

To measure AC or DC current using the clamp:

1. Turn the **Rotary Switch** to the **A~** or **A=** position (for AC or DC current respectively).
2. Press the **Trigger** to open the jaws.
3. Clamp the jaws around a single conductor (not a bundle of wires) through which the current flows.
4. Ensure the jaws are fully closed.
5. Read the current value on the display.
6. For DC current, use the **SEL/ZERO** button to zero the reading before clamping, if necessary.

5.5 Resistance, Continuity, and Diode Measurement

To measure resistance, continuity, or test diodes:

1. Turn the **Rotary Switch** to the Ω (Ohm) position.
2. Insert the test leads into the COM and INPUT terminals.
3. Use the **SEL/ZERO** button to cycle between Resistance (Ω), Continuity (), and Diode () test modes.
4. Connect the test leads across the component or circuit to be tested.
5. For continuity, a beep indicates a continuous circuit.
6. For diode testing, connect the red lead to the anode and black lead to the cathode for forward bias reading. Reverse for reverse bias.

5.6 Capacitance Testing

To measure capacitance:

1. Turn the **Rotary Switch** to the **Capacitance** () position.
2. Insert the test leads into the COM and INPUT terminals.
3. Discharge the capacitor before testing.
4. Connect the test leads across the capacitor terminals.
5. Read the capacitance value on the display.

5.7 Temperature Testing

To measure temperature:

1. Turn the **Rotary Switch** to the **Temperature** () position.
2. Insert the temperature probe (if included and compatible) into the COM and INPUT terminals, observing polarity.
3. Place the tip of the temperature probe on or near the object whose temperature is to be measured.
4. Read the temperature value on the display.

5.8 DC Micro-ampere Test

This function is useful for testing low DC currents, such as ignition current of flame sensors.

1. Turn the **Rotary Switch** to the $\mu A=$ position.
2. Insert the test leads into the COM and INPUT terminals.
3. Connect the test leads in series with the circuit where micro-ampere current is to be measured.
4. Read the value on the display.

5.9 LoZ Low Impedance Voltage Test

The LoZ function provides a low impedance input to prevent ghost voltages from affecting readings. This is particularly useful for identifying live circuits in parallel with non-energized circuits.

1. Turn the **Rotary Switch** to the **LoZ~** position.
2. Insert the test leads into the COM and INPUT terminals.
3. Connect the test leads across the circuit to be measured.
4. Read the voltage value on the display.

5.10 Live Neutral Wire Identification and V~Alert

The multimeter can help identify live and neutral wires and detect dangerous voltages without contact.

- **Live/Neutral Identification:** In certain voltage modes, the display may indicate "LIVE" or "NEUTRAL" when a single probe is inserted into a socket, helping to distinguish between live and neutral conductors.
- **V~Alert (Non-Contact Voltage Detection):**
 - a. Turn the **Rotary Switch** to the **V~Alert** position.
 - b. Move the V~Alert sensor area (top of the clamp jaws) near a conductor.
 - c. If AC voltage is detected, the multimeter will emit an audible beep and/or display a visual indication. The intensity of the alert may increase with stronger voltage.

5.11 Data Hold and Backlight

- **Data Hold (H):** Press the **H/*** button briefly to hold the current reading on the display. Press again to release.
- **Backlight (*):** Press and hold the **H/*** button to turn the display backlight on or off, improving visibility in low-light conditions.

6. MAINTENANCE

6.1 Cleaning

Wipe the case with a damp cloth and mild detergent. Do not use abrasives or solvents. Ensure the device is dry before use.

6.2 Battery Replacement

When the low battery indicator appears on the display, replace the batteries as described in Section 4.1. Failure to do so may result in inaccurate readings.

6.3 Storage

If the multimeter is not used for an extended period, remove the batteries to prevent leakage and damage. Store the device in a cool, dry place, away from direct sunlight and extreme temperatures.

7. TROUBLESHOOTING

Problem	Possible Cause	Solution
No display or faint display	Low or dead batteries; incorrect battery installation.	Replace batteries; check battery polarity.
"OL" displayed	Measurement exceeds the selected range.	Select a higher range (if manual ranging) or verify the input is within the device's maximum capabilities.
Inaccurate readings	Low batteries; poor test lead connection; external interference.	Replace batteries; ensure firm test lead connection; move away from strong electromagnetic fields.
No continuity beep	Circuit is open; continuity mode not selected.	Check circuit for breaks; ensure continuity mode is active.

8. SPECIFICATIONS

Parameter	Value
Maximum Display Value	6000 digits
Accuracy	±(% of reading + number of words)
Polar Indication	Automatic
Over Range Indication	'OL'
Sampling Time	Approximately 3 times/second
Automatic Power Off	20 minutes (can be canceled)
Battery Low Voltage Indication	LCD display symbol
Working Temperature	0°C ~ 40°C (32°F ~ 104°F)
Storage Temperature	-10°C ~ 50°C (14°F ~ 122°F)
Relative Humidity	Not more than 75%
Work Height	Maximum 2000m
Power Supply	2 x 1.5V AAA batteries
Dimensions (L x W x H)	17.9 x 6.7 x 3.6 cm (7.05 x 2.64 x 1.42 inches)
Weight	Approximately 336g (0.74 lbs)
Safety Rating	CAT II 600V, CAT III 300V

Function testing

Convenient measurement mode

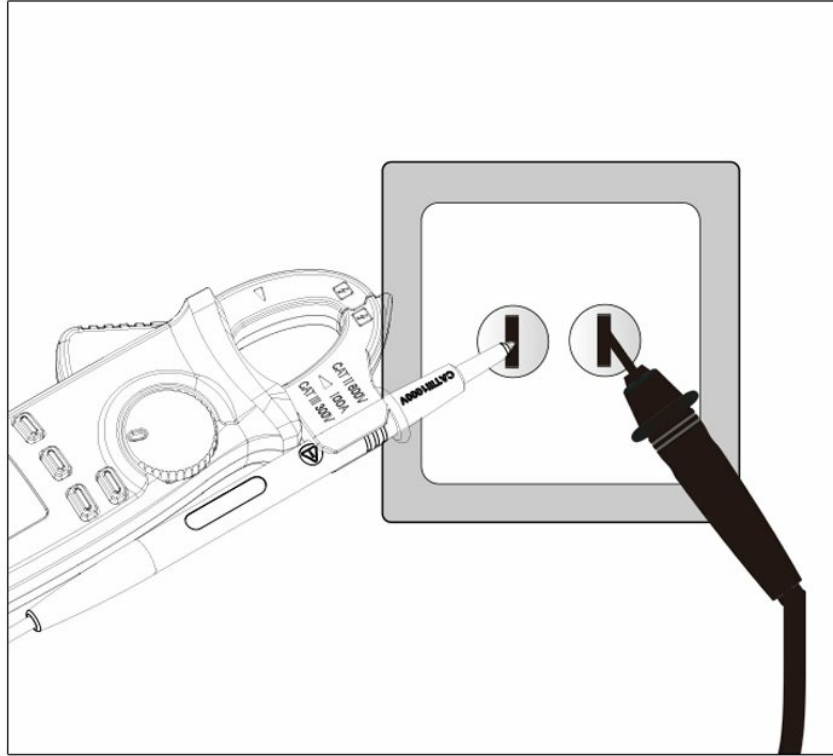


Image 8.1: Dimensional drawing of the multimeter, indicating its length, width, and thickness.

9. WARRANTY AND SUPPORT

For warranty information or technical support, please refer to the documentation provided at the time of purchase or contact EVTSCAN customer service. Specific warranty terms may vary by region and retailer.

Always ensure you have your product model number and purchase details available when seeking support.