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› VOLT CRAFT VC-750 E Digital Clamp Meter User Manual

## VOLT CRAFT VC-750 E

# VOLT CRAFT VC-750 E Digital Clamp Meter User Manual

Model: VC-750 E | Brand: VOLT CRAFT

## 1. INTRODUCTION

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The VOLT CRAFT VC-750 E is a versatile digital clamp meter designed for non-contact AC/DC current measurement and comprehensive multimeter functions. This device allows for current measurements without interrupting the circuit, making it ideal for electricians, technicians, and service personnel. Its robust, splash-proof (IP54) design ensures reliable operation in demanding environments.

## 2. SAFETY INFORMATION

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Always adhere to safety precautions when operating electrical measuring devices. Failure to do so may result in injury or damage to the device. This device is rated CAT IV 600 V, indicating its suitability for measurements at the source of the low-voltage installation, such as electricity meters and primary overcurrent protection devices.

- Ensure the device is in good working condition before use.
- Do not exceed the maximum input values for any function.
- Use only the provided test leads or equivalent safety-rated accessories.
- Avoid contact with live circuits.
- Do not operate the device in wet conditions or explosive atmospheres. The IP54 rating protects against dust and splashing water, but not immersion.
- Replace batteries when the low battery indicator appears.

## 3. PACKAGE CONTENTS

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Verify that all items are present and undamaged upon unpacking:

- VOLT CRAFT VC-750 E Digital Clamp Meter
- Test Leads (Red and Black)
- Temperature Probe (Yellow)
- AAA Batteries (3x)
- User Manual



Figure 3.1: The VOLTcraft VC-750 E Digital Clamp Meter shown with its included test leads, temperature probe, and batteries.

## 4. PRODUCT OVERVIEW

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Familiarize yourself with the main components of the VC-750 E:

- **Clamp Jaw:** Used for non-contact AC/DC current measurement.
- **Rotary Switch:** Selects measurement functions (e.g., V, A,  $\Omega$ , CAP, Diode).
- **LCD Display:** Shows measurement readings, units, and indicators (e.g., low battery, hold). Features a 31-segment bar graph.
- **Function Buttons:** For range selection, data hold, backlight, and other special functions.
- **Input Jacks:** For connecting test leads for voltage, resistance, capacitance, and diode measurements.



**Figure 4.1:** Bottom view of the VC-750 E, highlighting the input jacks for test leads.



Figure 4.2: Side view of the VC-750 E, showing the data hold button.

## 5. SETUP

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### 5.1 Battery Installation

1. Locate the battery compartment on the rear of the device.
2. Use a screwdriver to open the battery cover.
3. Insert three (3) AAA batteries, observing the correct polarity (+/-).
4. Replace the battery cover and secure it with the screw.

### 5.2 Connecting Test Leads

For voltage, resistance, capacitance, and diode measurements, connect the test leads:

- Insert the **black** test lead into the **COM** (common) input jack.
- Insert the **red** test lead into the **VΩCAP** input jack.

## 6. OPERATING INSTRUCTIONS

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## 6.1 Power On/Off

Turn the rotary switch from the OFF position to the desired measurement function to power on the device. Turn it back to OFF to power off.

## 6.2 AC/DC Current Measurement (Clamp Function)

This function allows non-contact current measurement.

1. Set the rotary switch to the "A" (Ampere) range for AC or DC current.
2. Press the clamp trigger to open the clamp jaw.
3. Enclose a single conductor with the clamp jaw. Ensure the jaw is fully closed.
4. Read the current value on the display.

## 6.3 Voltage Measurement (AC/DC)

1. Connect the test leads as described in Section 5.2.
2. Set the rotary switch to the "V" (Voltage) range for AC or DC voltage.
3. Connect the test probes in parallel to the circuit or component to be measured.
4. Read the voltage value on the display.

## 6.4 Resistance Measurement

1. Connect the test leads as described in Section 5.2.
2. Set the rotary switch to the " $\Omega$ " (Ohm) range.
3. Ensure the circuit or component is de-energized before measuring resistance.
4. Connect the test probes across the component.
5. Read the resistance value on the display.

## 6.5 Capacitance Measurement

1. Connect the test leads as described in Section 5.2.
2. Set the rotary switch to the "CAP" (Capacitance) range.
3. Ensure the capacitor is fully discharged before measurement.
4. Connect the test probes across the capacitor.
5. Read the capacitance value on the display.

## 6.6 Diode Test and Continuity

1. Connect the test leads as described in Section 5.2.
2. Set the rotary switch to the " $\Omega$ " (Ohm) range and use the function button to select Diode Test or Continuity.
3. For diode test, connect the probes across the diode. The forward voltage drop will be displayed.
4. For continuity, connect the probes across the circuit. An audible tone indicates continuity.

## 6.7 Special Functions

- **TrueRMS Measurement:** The VC-750 E provides TrueRMS measurements for accurate readings of non-sinusoidal AC waveforms.
- **3-Phase Rotation Tester with Low-Pass Filter:** Use this function for testing 3-phase systems. Refer to the specific instructions in the full manual for detailed usage.
- **Bar Graph Display:** The 31-segment bar graph provides a quick visual indication of measurement trends.
- **Data Hold:** Press the HOLD button (refer to Figure 4.2) to freeze the current reading on the display. Press again to release.

## 7. MAINTENANCE

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### 7.1 Cleaning

Clean the device regularly with a dry, lint-free cloth. Do not use abrasive cleaners or solvents. Ensure the device is powered off and test leads are disconnected before cleaning.

### 7.2 Battery Replacement

When the low battery indicator appears on the display, replace the batteries as described in Section 5.1. Always use fresh AAA batteries.

### 7.3 Storage

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

## 8. TROUBLESHOOTING

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If the device does not function correctly, consider the following:

- **No Display:** Check if the batteries are correctly installed and charged. Replace if necessary.
- **Incorrect Readings:** Ensure the correct measurement function is selected. Verify that test leads are properly connected and not damaged. Check for proper contact with the circuit.
- **No Continuity Beep:** Ensure the continuity function is selected and the circuit is de-energized.
- **Clamp Measurement Issues:** Ensure only a single conductor is within the clamp jaw and the jaw is fully closed.

If problems persist, contact customer support or a qualified service technician.

## 9. SPECIFICATIONS

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| Feature                   | Specification                   |
|---------------------------|---------------------------------|
| Measurement Type          | Digital Clamp Meter, Multimeter |
| Display Counts            | 6000                            |
| Safety Rating             | CAT IV 600 V                    |
| Ingress Protection (IP)   | IP54 (Splash-proof)             |
| AC/DC Current Measurement | Yes (Clamp Function)            |
| AC/DC Voltage Measurement | Yes                             |
| Resistance Measurement    | Yes                             |
| Capacitance Measurement   | Yes                             |
| Diode Test                | Yes                             |
| Continuity Test           | Yes                             |
| TrueRMS                   | Yes                             |
| 3-Phase Rotation Tester   | Yes (with low-pass filter)      |
| Bar Graph                 | 31 segments                     |
| Power Source              | 3x AAA Batteries                |
| Dimensions (L x W x H)    | 228 x 77 x 41 mm                |
| Weight                    | 180 g                           |

## 10. WARRANTY AND SUPPORT

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The VOLT CRAFT VC-750 E comes with a minimum 2-year warranty from the date of purchase, covering defects in materials and workmanship. For warranty claims, technical support, or spare parts availability, please contact your retailer or the VOLT CRAFT customer service department. Keep your proof of purchase for warranty validation.