

VOLTCRAFT VC-12884325

VOLTCRAFT VC851 Digital Multimeter User Manual

Model: VC-12884325 | Brand: VOLTCRAFT

1. INTRODUCTION AND SAFETY INFORMATION

This manual provides essential instructions for the safe and effective operation, maintenance, and troubleshooting of your VOLTCRAFT VC851 Digital Multimeter. Please read this manual thoroughly before using the device and keep it for future reference.

1.1 General Safety Warnings

Always adhere to the following safety precautions to prevent electric shock, injury, or damage to the meter or equipment under test:

- The VOLTCRAFT VC851 is rated for CAT III 1000 V and CAT IV 600 V. Ensure you understand these categories and their implications for safe measurement.
- Do not apply more than the rated voltage, as marked on the meter, between terminals or between any terminal and ground.
- Use caution when working with voltages above 30 V AC RMS, 42 V peak, or 60 V DC. These voltages pose a shock hazard.
- Before each use, inspect the test leads for damaged insulation or exposed metal. Replace damaged leads immediately.
- Ensure the rotary switch is in the correct position for the desired measurement before connecting the test leads to the circuit.
- Never use the meter if it appears damaged or if the case is open.
- Do not operate the meter in explosive gas, vapor, or dust environments.
- Always disconnect the test leads from the circuit before changing the function or range.
- Replace the battery as soon as the low battery indicator appears to ensure accurate readings.

2. PRODUCT OVERVIEW

The VOLTCRAFT VC851 is a versatile digital multimeter designed for precise electrical measurements. It

features a 6000-count display, auto-ranging capabilities, and integrated flashlight and screen illumination for use in various environments.



Figure 2.1: Front view of the VOLT CRAFT VC851 Digital Multimeter with connected test leads. This image shows the display, rotary dial, function buttons, and input jacks.

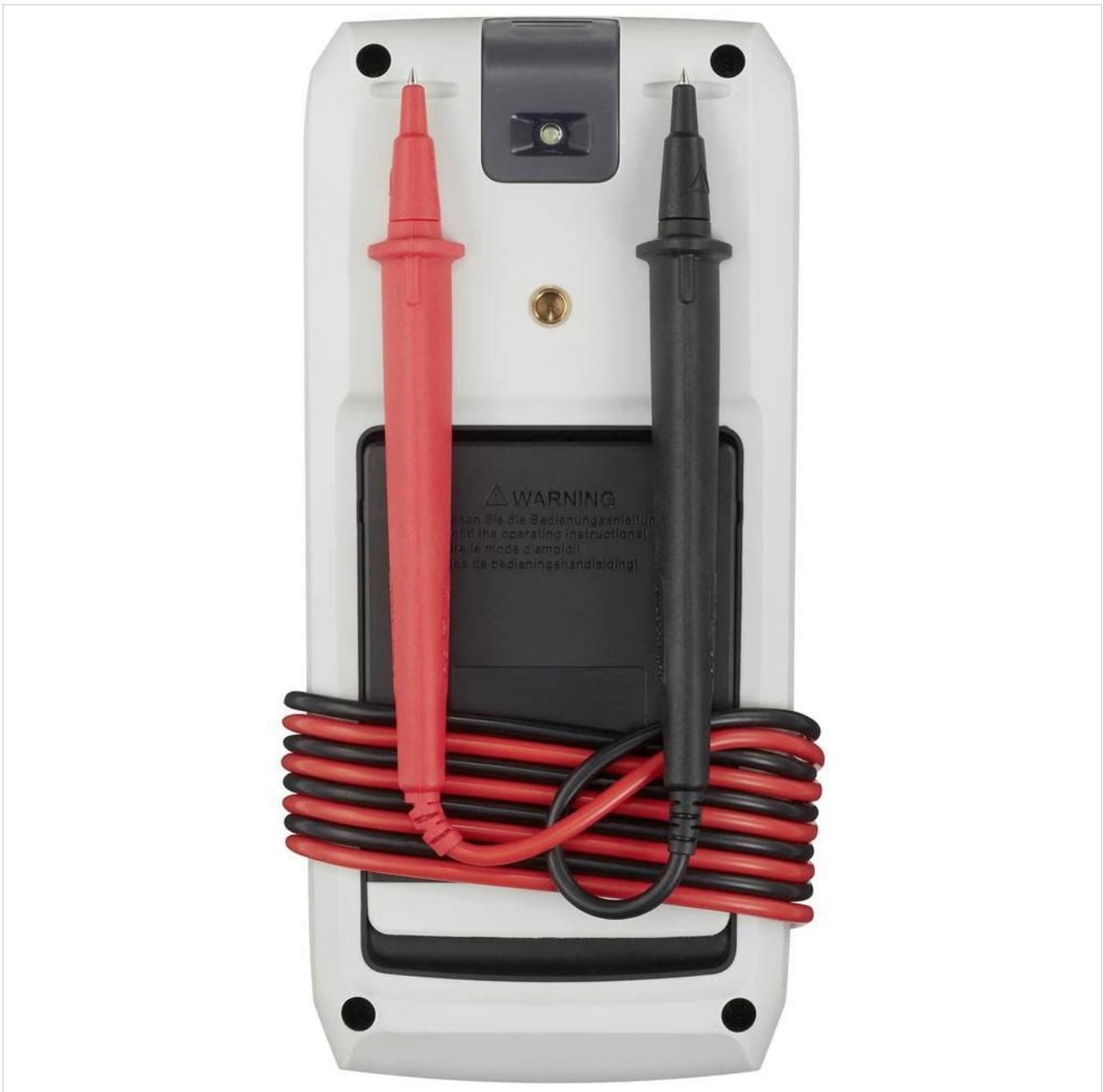


Figure 2.2: Rear view of the VOLTCRAFT VC851 Digital Multimeter, illustrating the integrated test lead storage and kickstand.

3. SETUP AND INITIAL OPERATION

3.1 Battery Installation

The VOLTCRAFT VC851 is powered by batteries. To install or replace batteries:

1. Ensure the multimeter is turned OFF and disconnect all test leads.
2. Locate the battery compartment cover on the back of the device.
3. Use a screwdriver to open the battery compartment.
4. Insert new batteries, observing the correct polarity (+/-).
5. Securely close the battery compartment cover.



Figure 3.1: Back view of the multimeter, highlighting the battery compartment for installation or replacement.

3.2 Connecting Test Leads

To prepare for measurements:

- Insert the black test lead into the "COM" (common) input jack.
- Insert the red test lead into the appropriate input jack for your measurement:
 - "VΩHz" for voltage, resistance, frequency, capacitance, and diode tests.
 - "mAμA" for milliampere and microampere current measurements.
 - "10A" for high current (up to 10A) measurements.



Figure 3.2: The multimeter with test leads properly connected to the input jacks, ready for use.

4. OPERATING INSTRUCTIONS

The VOLT-CRAFT VC851 features a rotary dial for selecting primary measurement functions and buttons for secondary functions and settings.

4.1 Function Selection

Turn the central rotary dial to select the desired measurement function (e.g., V for voltage, A for current, Ω for resistance). The meter will automatically select the appropriate range (Auto-Range) for most measurements.

4.2 Measurement Modes

- **Voltage (V~ / V-):** Measure AC or DC voltage. Select the appropriate voltage range using the rotary dial.
- **Current (A~ / A-):** Measure AC or DC current. Ensure test leads are connected to the correct current input jacks (mA μ A or 10A) and the rotary dial is set to the corresponding current range.
- **Resistance (Ω):** Measure resistance in ohms.
- **Continuity:** Test for continuity with an audible buzzer.
- **Diode Test:** Test diodes for proper function.
- **Capacitance (F):** Measure capacitance in farads.
- **Frequency (Hz):** Measure frequency in hertz.
- **Temperature ($^{\circ}$ C/ $^{\circ}$ F):** Measure temperature using the included temperature probe.

4.3 Special Features

- **Flashlight:** Press the dedicated flashlight button to illuminate the work area.
- **Screen Illumination:** The display features backlighting for improved visibility in low-light conditions.
- **Data Hold:** Press the "HOLD" button to freeze the current reading on the display.
- **Min/Max:** Use the "MIN/MAX" function to record the minimum and maximum values during a measurement session.



Figure 4.1: The multimeter in use, demonstrating its application in an electrical panel for voltage or current checks.

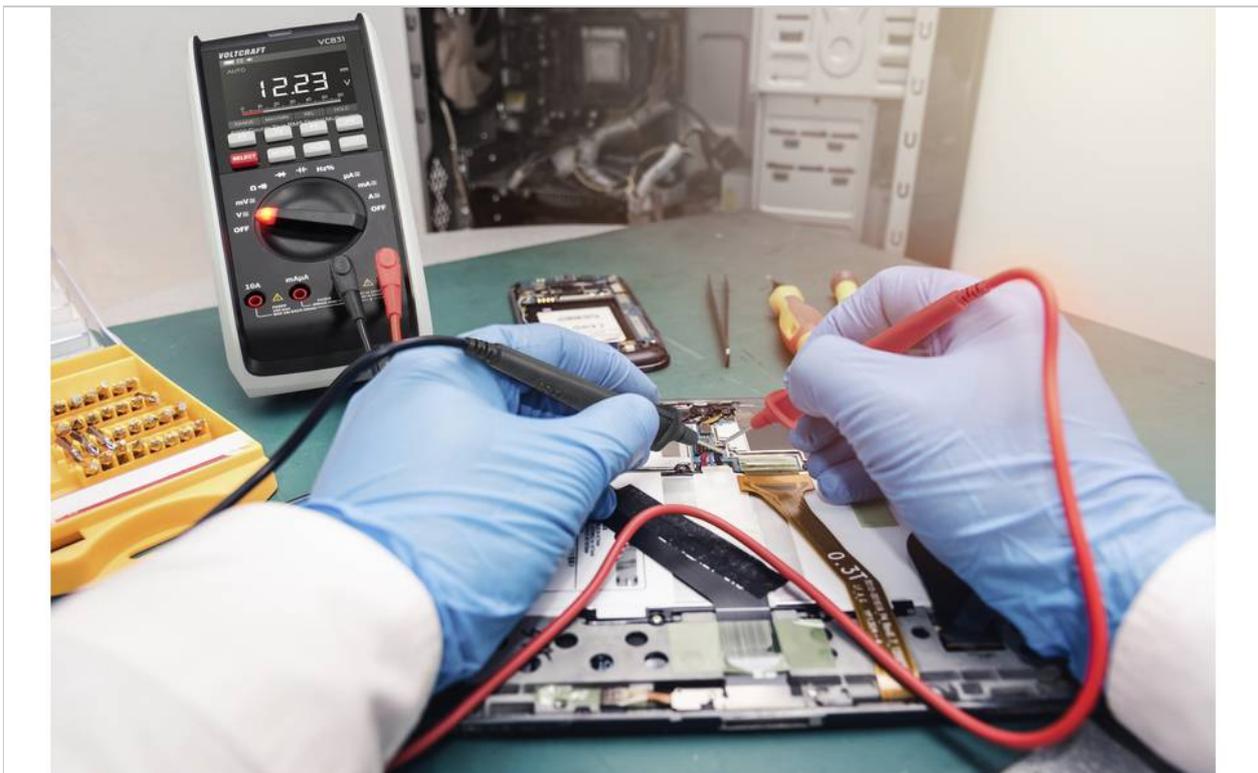


Figure 4.2: The multimeter being used for precise measurements on a circuit board, showcasing its versatility for electronics work.

5. MAINTENANCE

Proper maintenance ensures the longevity and accuracy of your VOLTcraft VC851 Digital Multimeter.

5.1 Cleaning

- Always turn off the meter and disconnect test leads before cleaning.

- Wipe the case with a damp cloth and mild detergent. Do not use abrasives or solvents.
- Ensure no moisture enters the case.

5.2 Battery Replacement

Refer to Section 3.1 for detailed instructions on battery replacement. Replace batteries promptly when the low battery indicator appears to maintain measurement accuracy.

5.3 Fuse Replacement

If the current measurement function stops working, the fuse may need replacement. Fuses are critical safety components. Always replace with a fuse of the specified type and rating.

1. Ensure the multimeter is turned OFF and disconnect all test leads.
2. Open the battery compartment cover (refer to Section 3.1).
3. Carefully remove the old fuse.
4. Install a new fuse of the exact same type and rating. Refer to the specifications section for fuse details.
5. Securely close the battery compartment cover.

6. TROUBLESHOOTING

If you encounter issues with your VOLTcraft VC851, consult the following table for common problems and solutions.

Problem	Possible Cause	Solution
No display or faint display	Low or dead batteries	Replace batteries (see Section 3.1).
Incorrect readings	Incorrect function/range selected; Damaged test leads; External interference	Verify rotary switch position; Inspect and replace test leads if damaged; Move away from strong electromagnetic fields.
Current measurement not working	Blown fuse; Incorrect lead connection	Replace fuse (see Section 5.3); Ensure leads are in the correct current input jacks.
"OL" (Overload) displayed	Measurement exceeds selected range or meter's maximum capacity	Switch to a higher range if available, or ensure the measured value is within the meter's specifications.

7. TECHNICAL SPECIFICATIONS

Feature	Specification
Model Number	VC-12884325
Safety Rating	CAT III 1000 V, CAT IV 600 V
Display Counts	6000 counts
Ranging	Auto-Range

Feature	Specification
Functions	AC/DC Voltage, AC/DC Current, Resistance, Continuity, Diode, Capacitance, Frequency, Temperature
Special Features	Flashlight, Screen Illumination, Data Hold, Min/Max
Dimensions (L x W x H)	4.3 x 9.1 x 20 cm (1.7 x 3.6 x 7.9 inches)
Weight	430 Grams (0.95 lbs)
Power Source	Battery powered
Spare Parts Availability	1 Year

8. WARRANTY AND SUPPORT

VOLTCRAFT products are designed for reliability and performance. This product comes with a standard warranty. For specific warranty terms and conditions, please refer to the documentation included with your purchase or visit the official VOLTCRAFT website.

Spare parts are available for 1 year from the date of purchase. For technical support, service, or inquiries regarding spare parts, please contact VOLTCRAFT customer service through their official channels.

Please retain your proof of purchase for warranty claims.