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VOLT CRAFT VC585

VOLT CRAFT VC585 Digital Clamp Meter User Manual

Your guide to safe and effective operation of the VOLT CRAFT VC585.

1. IMPORTANT SAFETY INFORMATION

Please read and understand all safety information and operating instructions before using the VOLT CRAFT VC585 Digital Clamp Meter. Failure to follow these instructions may result in electric shock, fire, or serious injury.

- This device is rated for **CAT III 600 V**. Always adhere to the specified measurement category and voltage limits.
- Do not attempt to measure voltages or currents that exceed the maximum ratings of the device.
- Always inspect the device and test leads for damage before use. Do not use if damaged.
- Ensure the rotary switch is in the correct position for the desired measurement before connecting to a circuit.
- Use caution when working with live circuits. Avoid contact with bare conductors.
- Do not operate the device in wet environments or in the presence of explosive gases or fumes.
- Replace batteries immediately when the low battery indicator appears to ensure accurate readings.

2. PRODUCT OVERVIEW

The VOLT CRAFT VC585 is a compact, ergonomic digital clamp meter designed for safe and convenient measurement of AC current, AC/DC voltage, resistance, frequency, and non-contact voltage. Its robust, soft rubber-protected housing allows for comfortable one-hand operation. The device features True RMS measurement and a 4000-count display for precise readings.

Key Features:

- Measurement Category: CAT III 600 V
- AC Current Measurement: Up to 400 A
- Voltage Measurement: 1 mV - 600 V AC, 0.1 mV - 600 V DC
- Basic Accuracy: $\pm 1.5\%$
- True RMS for accurate readings on non-sinusoidal waveforms.

- Non-contact AC voltage detection (NCV).
- Factory calibrated for reliable measurement results.



Figure 2.1: Front view of the VOLTcraft VC585 Digital Clamp Meter, showing the display, rotary switch, and function buttons.

3. SETUP

3.1 Battery Installation

The VOLTcraft VC585 requires three (3) AAA batteries for operation. To install or replace batteries:

1. Ensure the device is turned OFF.
2. Locate the battery compartment cover on the back of the device.
3. Use a screwdriver to loosen the screw securing the cover.
4. Remove the cover and insert three AAA batteries, observing the correct polarity (+/-) as indicated inside the compartment.
5. Replace the battery compartment cover and tighten the screw.

3.2 Connecting Test Leads

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

1. Insert the black test lead into the **COM** (common) input jack.
2. Insert the red test lead into the **VΩHz** input jack.



Figure 3.1: The VC585 with red and black test leads connected to the appropriate input jacks.

4. OPERATING INSTRUCTIONS

4.1 Power On/Off and Function Selection

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

4.2 Measuring AC Current (ACA)

The VC585 allows for non-contact measurement of AC current up to 400 A.

1. Turn the rotary switch to the **A~** position.
2. Press the clamp trigger to open the jaws.
3. Encircle only **one** conductor with the clamp jaws. Ensure the jaws are fully closed around the conductor.

4. Read the AC current value on the display.



Figure 4.1: The VC585 with its clamp jaws open, ready for current measurement.

4.3 Measuring AC/DC Voltage (V~ / V-)

To measure voltage:

1. Connect the test leads as described in Section 3.2.
2. Turn the rotary switch to the **V~** for AC voltage or **V-** for DC voltage.
3. Connect the test probes in parallel to the circuit or component you wish to measure.
4. Read the voltage value on the display.

4.4 Other Measurement Functions

- **Resistance (Ω):** Turn the rotary switch to the Ω position. Connect test leads to the component.
- **Continuity:** Turn the rotary switch to the continuity symbol. A built-in buzzer will sound if continuity is detected.
- **Frequency (Hz):** Available in certain voltage or current ranges.
- **Non-Contact Voltage (NCV):** Turn the rotary switch to NCV. Bring the top of the clamp meter near an AC voltage source. The NCV indicator will light up and an audible alarm will sound.
- **Temperature ($^{\circ}\text{C}/^{\circ}\text{F}$):** Turn the rotary switch to $^{\circ}\text{C}/^{\circ}\text{F}$. (Requires a separate temperature probe, not

included).

4.5 Special Functions

- **HOLD:** Press the HOLD button to freeze the current reading on the display. Press again to release.
- **MAX/MIN:** Press the MAX/MIN button to record the maximum or minimum value during a measurement session. Press repeatedly to cycle between MAX, MIN, and normal mode.
- **Important Note on MAX function for Amperage:** The VC585 automatically selects the amperage range (4A, 40A, 400A). When using the MAX function to capture transient currents (e.g., motor startup amps), the meter's range is set at the moment the MAX button is pressed. If the initial current is low and the range is set to 4A or 40A, a subsequent high startup current (e.g., 100A) may result in an "OL" (Overload) reading because the meter's range was not automatically adjusted to 400A. This means the 400A range cannot be manually selected for the MAX function if the initial current is below the higher ranges.

5. MAINTENANCE

5.1 Cleaning

Wipe the device with a dry, clean, soft cloth. Do not use abrasive cleaners or solvents. Ensure the device is powered off before cleaning.

5.2 Battery Replacement

Replace the batteries as soon as the low battery indicator appears on the display to maintain measurement accuracy. Refer to Section 3.1 for battery installation instructions.

5.3 Storage

If the device is not 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.

5.4 Calibration

The VOLTcraft VC585 undergoes factory calibration during production to ensure reliable and accurate measurement results within the specified tolerance limits. No user calibration is required.

6. TROUBLESHOOTING

If you encounter issues with your VOLTcraft VC585, refer to the following common problems and solutions:

- **Device does not power on:** Check if the rotary switch is set to an ON position. Verify that the batteries are correctly installed and have sufficient charge. Replace batteries if necessary.
- **"OL" (Overload) displayed:** This indicates that the measured value exceeds the selected range or the maximum capacity of the meter. Select a higher range if available, or ensure the measurement is within the device's limits. For AC current, remember the limitation of the MAX function as described in Section 4.5.
- **Erratic or incorrect readings:** Ensure test leads are securely connected and not damaged. Check for proper function selection. Clean the input jacks and test lead plugs if necessary.
- **No NCV detection:** Ensure the NCV function is selected and the top of the clamp meter is brought close enough to the AC voltage source.

7. SPECIFICATIONS

Parameter	Value
Model Number	VC585
Measurement Category	CAT III 600 V
Display Counts	4000
AC Current Range	Up to 400 A
AC Voltage Range	1 mV - 600 V
DC Voltage Range	0.1 mV - 600 V
Basic Accuracy	±1.5 %
Power Source	3 x AAA batteries
Dimensions (L x W x H)	228 x 77 x 41 mm
Weight	265 g
Color	Black
Compliance	CAT III 600 V, Factory Calibration

8. WARRANTY AND SUPPORT

8.1 Warranty Information

The VOLT CRAFT VC585 Digital Clamp Meter comes with a minimum **2-year warranty** from the date of purchase. This warranty covers defects in materials and workmanship under normal use. Please retain your proof of purchase for warranty claims.

8.2 Customer Support

For technical assistance, troubleshooting beyond this manual, or warranty inquiries, please contact your retailer or the VOLT CRAFT customer support service. Refer to the packaging or the VOLT CRAFT official website for contact details.