

Cloudpower FS899C

Cloudpower FS899C Digital Multimeter User Manual

Model: FS899C | Brand: Cloudpower

1. INTRODUCTION

The Cloudpower FS899C is a fully automatic digital multimeter designed for accurate and versatile electrical measurements. This device is equipped with a color screen, USB-C charging capability, and True RMS functionality, making it suitable for a wide range of home, automotive, and industrial electrical troubleshooting tasks. This manual provides essential information for the safe and effective operation of your multimeter.

2. SAFETY PRECAUTIONS

Always adhere to safety guidelines when using electrical testing equipment to prevent electric shock or personal injury.

- Ensure the multimeter is in good working condition before use. Inspect test leads for damage.
- Do not apply voltage or current that exceeds the maximum rated values for the multimeter.
- Use 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 before measuring resistance, continuity, or capacitance.
- Do not operate the multimeter in explosive gas, vapor, or dusty environments.
- Keep fingers behind the finger guards on the test probes during measurements.
- Replace batteries promptly when the low battery indicator appears to ensure accurate readings.

3. PRODUCT COMPONENTS AND OVERVIEW

The Cloudpower FS899C Digital Multimeter comes with essential accessories for various measurements.



Image 3.1: The Cloudpower FS899C Digital Multimeter shown with its included test leads, USB-C charging cable, and temperature probe.

Familiarize yourself with the various parts of your multimeter:



Image 3.2: A detailed diagram labeling the key components of the FS899C multimeter, including the backlit digital display, NCV induction search light, USB charging port, indicator light, flashlight/NCV button, data hold/backlight button, voltage button, current port, public port, and function port.

Key Features:

- **Versatile Measurement Functions:** Measures AC/DC voltage, current, resistance, capacitance, frequency, continuity, non-contact voltage (NCV), and ambient temperature.
- **Rechargeable USB-C Power:** Built-in battery provides up to 8 hours of operation after approximately 2 hours of charging.
- **Clear 4.8-Inch Display with Backlight:** Large, easy-to-read screen with backlight and integrated torch for low-light conditions. Includes data hold function.
- **True RMS Accuracy:** Offers up to 6000 counts with high precision for complex technical work.
- **Rugged Design:** Durable plastic housing with drop-resistant features.

4. GETTING STARTED

4.1. Charging the Multimeter

The FS899C features a built-in rechargeable battery. Before first use, or when the low battery indicator appears, charge the device using the provided USB-C cable.

1. Connect the USB-C end of the cable to the multimeter's USB charging port.
2. Connect the USB-A end to a standard USB power adapter (not included) or a computer's USB port.
3. The indicator light will show charging status. A full charge typically takes about 2 hours and provides up to 8 hours of operation.



Image 4.1: The multimeter display indicating charging status (red for charging, green for fully charged) and demonstrating the NCV function.

4.2. Powering On/Off

Press and hold the power button (usually located on the side or front panel) to turn the multimeter on or off. The device features an auto shut-down function to conserve battery life after a period of inactivity.

5. OPERATING MODES AND MEASUREMENTS

The FS899C automatically selects the appropriate measurement range (Auto Range) for most functions. Use the function button to cycle through different measurement types if needed.



Image 5.1: The multimeter display highlighting its 6000 Counts True RMS capability and icons representing various functions like AC Voltage, DC Voltage, Resistance, Continuity, Live Wire, Non-Contact Voltage (NCV), Auto Shut-down, and Auto Range.

5.1. AC/DC Voltage Measurement

To measure voltage:

1. Insert the red test lead into the 'VHzΩ' input jack and the black test lead into the 'COM' input jack.
2. Select the voltage measurement mode (AC or DC, if not auto-detected).
3. Connect the test probes in parallel across the circuit or component to be measured.
4. Read the voltage value on the display.

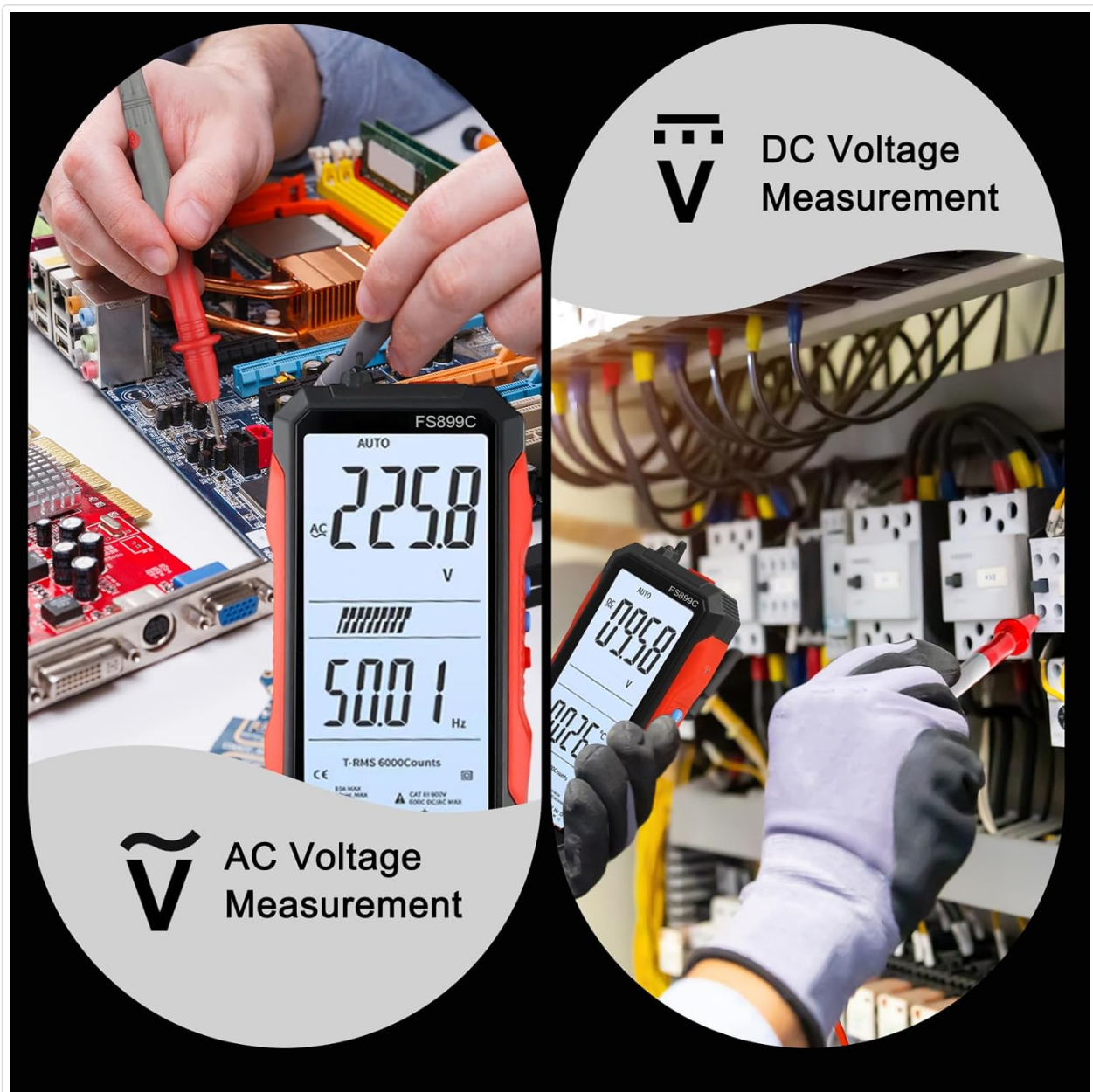


Image 5.2: Demonstrations of the multimeter measuring AC voltage (left) and DC voltage (right) in different electrical setups.

5.2. Resistance, Continuity, Live Wire, and Temperature Measurement

These functions are crucial for diagnosing circuit issues.



Image 5.3: A collage showing the multimeter in action for various measurements: Resistance (top left), Continuity (top right), Live Wire detection (bottom left), and Temperature measurement (bottom right).

Resistance Measurement (Ω)

1. Ensure the circuit is de-energized.
2. Insert the red test lead into the 'VHz Ω ' jack and the black test lead into the 'COM' jack.
3. Select resistance mode.
4. Connect the probes across the component.

Continuity Test ()))

1. Ensure the circuit is de-energized.
2. Insert test leads as for resistance.
3. Select continuity mode.
4. Touch probes to the points to be tested. A beep indicates continuity.

Live Wire Detection (Live)

1. Select Live mode.

2. Place the red probe near the wire. The display will indicate if it's a live wire.

Temperature Measurement (°C/°F)

1. Insert the temperature probe into the appropriate jacks (refer to the multimeter's markings).
2. Select temperature mode.
3. Place the probe tip on or near the object whose temperature is to be measured.

5.3. Non-Contact Voltage (NCV) Detection

The NCV function allows for quick and safe detection of AC voltage without direct contact.

1. Press the NCV button to activate the function.
2. Move the top of the multimeter close to the wire or outlet.
3. The multimeter will indicate the presence of AC voltage with an audible beep and flashing indicator light.

5.4. Current Measurement (A)

Caution: Always connect the multimeter in series with the circuit when measuring current. Never connect it in parallel across a voltage source.

1. Turn off power to the circuit.
2. Insert the red test lead into the '10A MAX' or 'mA' input jack (depending on expected current) and the black test lead into the 'COM' jack.
3. Break the circuit and connect the multimeter in series.
4. Restore power and read the current value.

5.5. Capacitance Measurement (F)

1. Ensure the capacitor is fully discharged before measurement to prevent damage to the multimeter.
2. Insert the red test lead into the 'VHzΩ' jack and the black test lead into the 'COM' jack.
3. Select capacitance mode.
4. Connect the probes across the capacitor terminals.

5.6. Frequency Measurement (Hz)

1. Insert the red test lead into the 'VHzΩ' jack and the black test lead into the 'COM' jack.
2. Select frequency mode.
3. Connect the probes across the signal source.

5.7. Data Hold Function

Press the 'HOLD' button to freeze the current reading on the display. Press it again to release and resume live readings. This is useful for recording measurements in hard-to-reach areas or when the display is not immediately visible.

6. MAINTENANCE AND CARE

- **Cleaning:** Wipe the multimeter casing with a damp cloth and mild detergent. Do not use abrasives or solvents.
- **Storage:** Store the device in a cool, dry place away from direct sunlight and extreme temperatures.

- **Battery:** Recharge the battery regularly, even if not in frequent use, to maintain its lifespan.
- **Test Leads:** Inspect test leads for any cuts, cracks, or damage before each use. Replace damaged leads immediately.

7. TROUBLESHOOTING

Problem	Possible Cause	Solution
Multimeter does not power on.	Low or depleted battery.	Charge the multimeter using the USB-C cable.
Inaccurate readings.	Damaged test leads; incorrect measurement mode; external interference.	Inspect test leads; ensure correct mode is selected; move away from strong electromagnetic fields.
No continuity beep.	Open circuit; multimeter not in continuity mode.	Verify circuit integrity; select continuity mode.
Display is dim or flickering.	Low battery.	Recharge the multimeter.

8. TECHNICAL SPECIFICATIONS

- **Product Dimensions:** 6.3 x 4.72 x 1.38 inches
- **Item Weight:** 9.4 ounces
- **Manufacturer:** Cloudpower
- **Model Number:** FS899C
- **Display:** 4.8-inch Digital Color Screen, Backlit
- **Counts:** 6000 Counts True RMS
- **DC Voltage Range:** 60mV–600V (Accuracy: $\pm(1.2\%+5d)$)
- **AC Current Range:** 300mA–10A (Accuracy: $\pm(2.5\%+8d)$)
- **Capacitance Range:** 10nF–60mF (Accuracy: $\pm(10\%+88d)$)
- **Power Source:** Rechargeable USB-C (Built-in battery)
- **Operating Time:** Up to 8 hours (after approx. 2 hours charge)
- **Functions:** AC/DC Voltage, AC/DC Current, Resistance, Capacitance, Frequency, Continuity, NCV, Temperature, Data Hold, Auto Range, Auto Shut-down.

9. WARRANTY AND SUPPORT

For warranty information or technical support regarding your Cloudpower FS899C Digital Multimeter, please contact the manufacturer, Cloudpower, directly through their official support channels. Refer to your purchase

documentation for specific warranty terms and contact details.